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A CORNER OF DOCK DEPARTMENT EXHIBIT

On the table are models of concrete bulkhead, pier construction and crib work. A diver's suit complete stands in the corner. Samples of modern piles, irons of various kinds, photographs and tabular statements complete the exhibit. Photographs on the left of the Department of Charities show how crowded with material is the whole show.

NEW YORK BUDGET EXHIBIT

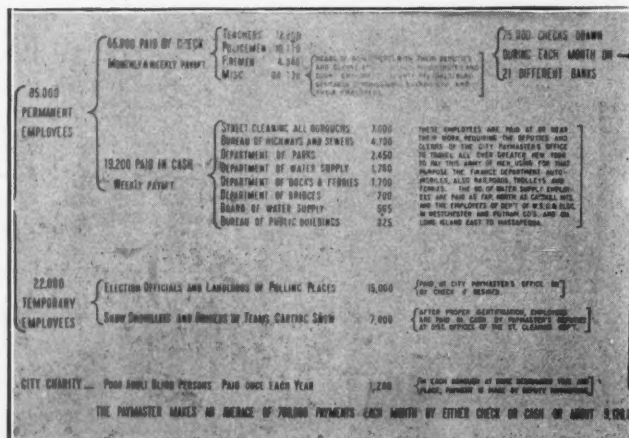
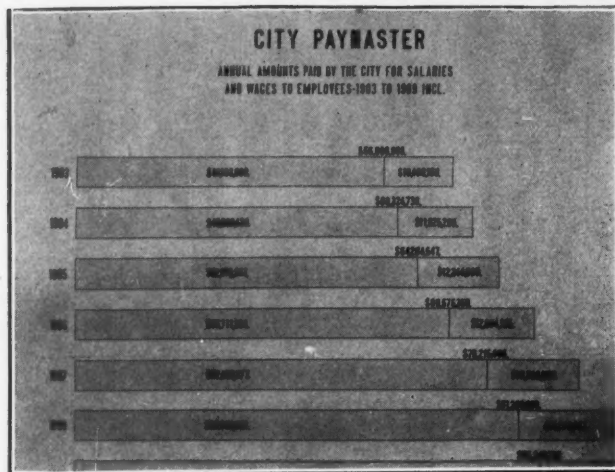
Occupying More Than an Acre—Effort of City Government to Inform the Taxpayers Concerning How Their Money Has Been and Is to Be Spent—Varied Nature of Exhibits Displayed

THE New York Budget Exhibit is a presentation by the city authorities of the scope and activities of the many city departments, with a view to supplying citizens with such information as they need to consider intelligently the requirements for the annual budget of 1911, which will soon be made up. Public hearings are to be held before the budget is passed, at which any citizen is invited to give his reason for approving or disapproving any item for which an appropriation is asked by a department head. There have been public exhibits in New York covering in part the same ground, but with a different purpose.

An exhibition was made last year by the Bureau of Municipal

Research, which is largely reproduced by this one; and that preceded the passing of the annual budget, as this does. But the purpose was distinctly that of criticism, the main purpose being to show that economies could be made in the expenditures. The criticisms, however, were not all unfavorable, and many instances of good judgment, and even of need of larger appropriations, were pointed out—notably in the charities and educational departments.

In exhibitions held under the auspices of various societies interested in art, city planning and questions of congestion of population, part of the ground has been covered and some of the pictures, charts and models shown by them are included in the



GRAPHIC ILLUSTRATION OF CITY'S PAYROLL

Wages on left of dividing line in block, salaries on right. Tabular statement gives the distribution of city employees according to the department in which they are employed and the method of payment.

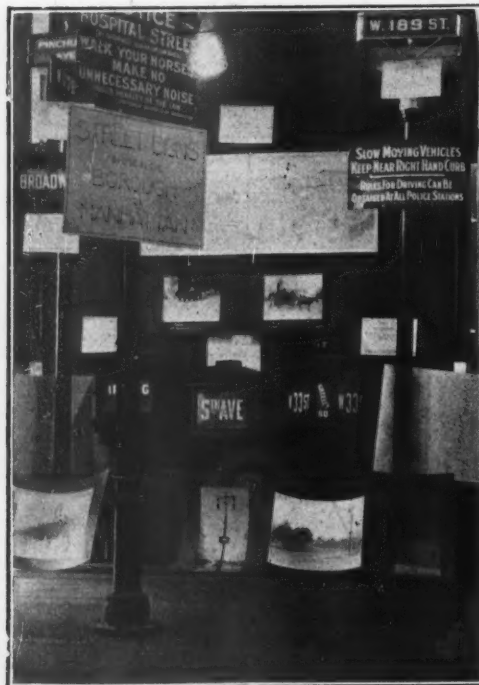
budget exhibit. This, however, is the first exhibit ever gotten up by the city itself and it is the most comprehensive one. It is like an annual report, differing from such a document in two important particulars—it is easy to understand and it is up to date.

If everybody in New York does not know where the Municipal Budget Exhibit is held and does not visit it, it will not be the fault of the officials in charge. Placards on the Brooklyn Bridge approach at City Hall Park, where as many people pass every day as at any spot in the world, announce the location and invite all citizens to attend. This is only one of many notices put up in prominent places and in city buildings. In addition, requests to visit the exhibit will be forwarded to all taxpayers with their tax bills.

The exhibition is held in a building, 330 Broadway, three floors of which, comprising 45,000 square feet of space, have been rented for the purpose. The location is not far from the City Hall and near the office built by the city for various municipal departments until such time as the new municipal building is ready for occupancy. The hiring of the building in itself is a lesson in city economics, for it is only a loft building with nothing of the appearance usually expected in a public building. While some cities have halls, auditoriums and even theaters to rent, notably Denver, New York has to hire space in which to transact its routine office business and has not a foot of space for any purpose out of the ordinary. Twenty-five thousand dollars was appropriated for the exhibit, \$3,000 of which is required for the rental of these floors for a month.

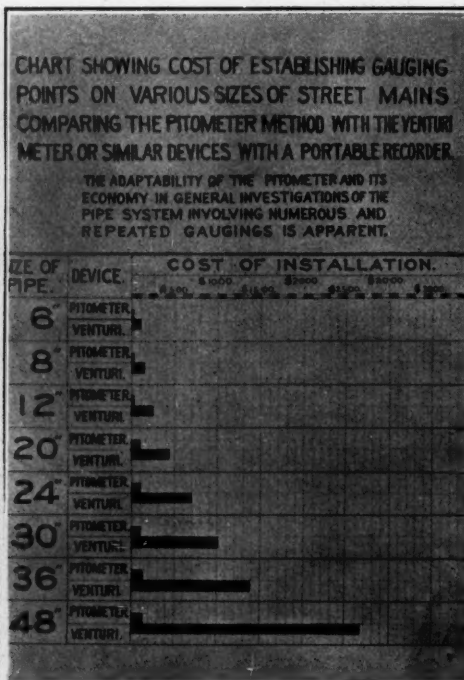
Such an enterprise is a business in itself and requires an office. This is supplied by a corner on the second floor, where Mr. McIntyre, of the Finance Department, is in immediate charge. The assignment of space is not as orderly as might perhaps have been worked out, and most exhibits are too crowded for proper display. The large departments are kept by themselves. Booths of various sizes, formed by canvas screens, are assigned to the various bureaus or subdivisions of departments. Altogether there are 54 bureaus represented.

The exhibit consists of material of both a popular and a technical nature. There is something interesting to catch the eye of the average spectator in every booth, while the searcher



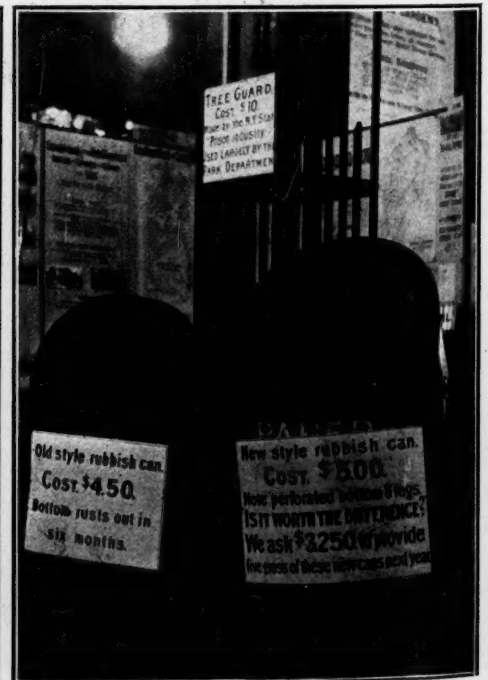
NEW YORK STREET SIGNS

A collection of street signs used for various purposes in Manhattan borough, together with photographs showing the different kinds of poles on which they are placed. "Box" and "Triangle" signs. Special signs in blue and white enamel for traffic regulation.



RELATIVE COSTS OF MEASURING WATER

Chart exhibited by the Bureau of Water Waste and Measurement, Department of Water Supply, Gas and Electricity. The chart is accompanied by models of installations as well as some of the full-sized measuring devices.



PARK DEPARTMENT RUBBISH CANS

The new kind has a perforated bottom and legs about four inches high formed by a piece of iron one inch wide bent in a U-shaped loop. An economical tree guard is shown in the rear.

for technical information can find a great quantity of it by closer observation. The exhibits consist of placards explaining the organization of the several departments or subdivisions, their general purposes, needs, accomplishments and expenditures, with more or less detailed data, often stated graphically, and sometimes an appeal for more generous appropriations. Perhaps the most touching appeal of all is that of the Borough of Queens, which says: "We are the biggest borough and get the least money."

Photographs form important parts of nearly all the displays. These include views of construction or finished public work, of appliances or machinery used, or illustrations of one sort or another of the active operations of the bureaus.

Much attention is attracted by models, for the most part of the larger public works, such as water works, parks, docks, buildings, although many are of smaller devices, such as a pitometer installation.

Actual samples of supplies used form still another class. Often these are for the purpose of showing the quality and prices of articles used or consumed; or they may be interesting because not generally understood. One interesting line of supplies includes articles made by those under the charge of the Department of Charities and Correction for the use of other departments. Even pumpkins from the city farm may be seen.

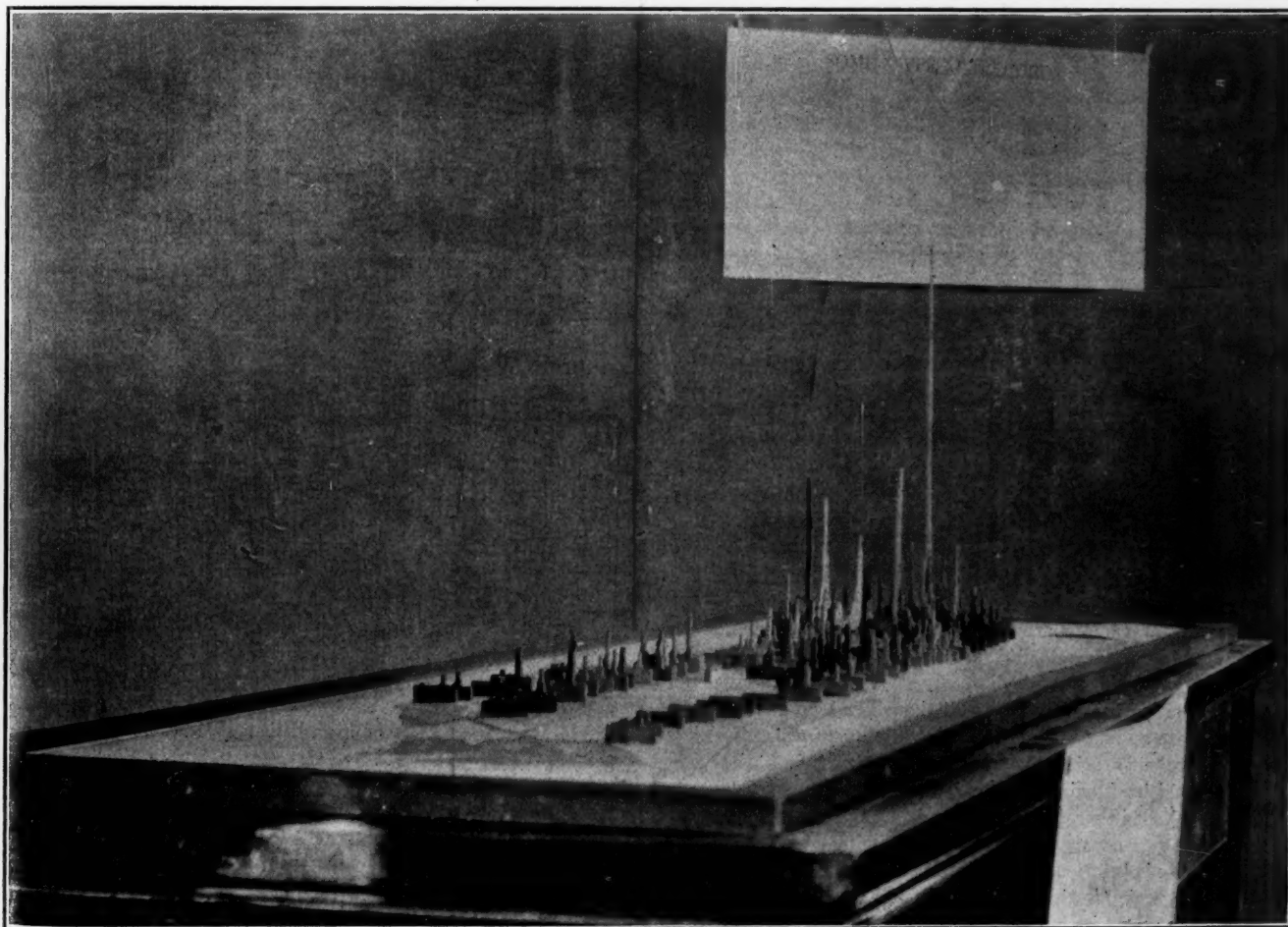
All of these things, each in its own place, go to show the citizens of New York why their city government cost \$163,000,000 in 1910, almost \$34 for each inhabitant, and why in the future it must cost more.

On the ground floor is an auditorium where lectures will be given by heads of departments and bureaus further explaining their work and its requirement. The lecturers will not be chosen exclusively from the city forces, but citizens having a

special knowledge of certain subjects will be invited to speak. In some cases general discussion is invited. In the rear of the hall is a screen on which moving pictures will be thrown illustrating interesting branches of the city activities, such, for example, as the Fire Department responding to an alarm.

The exhibit was opened October 3 and will continue open until October 28. John Purroy Mitchel, who had been Acting Mayor for several weeks, made the opening address. He was followed by George McAneny, President of Manhattan Borough, and W. A. Prendergast, Comptroller. Lectures are delivered every day on some municipal topic, among the speakers so far having been the following: Dr. Ernst J. Lederle, Commissioner of Health; Rober J. Wilkin, Judge of the Children's Court, Brooklyn; Police Commissioner Baker; Charles B. J. Snyder, architect, city school houses; Dr. William H. Maxwell, Superintendent of Schools; Deputy Commissioner Joseph Johnson, Second Deputy Commissioner Arthur O'Keeffe and Deputy Chief Guerin, of the Fire Department; James J. Munro, Chief Division of Inspection; Commodore W. E. Longfellow, of the Volunteer Life Saving Corps.

On the first day the exhibition was opened there were 35,000 visitors. Most of these are men, perhaps 90 per cent, but in the booths of the Departments of Education and of Charities many ladies view the objects with interest. The show seems to have something to interest everybody and it is a typical New York crowd—just such as may be found in the subway or elevated trains at any time. Neither rich nor poor, professional, business men or laborers predominate, but representatives of all are there. Crowds about the collection of defective weights and measures and the Civil Service Commission booth show that city affairs are a practical matter and have to do with the cost and means of living.



MODEL ILLUSTRATING RAPID TRANSIT TRAFFIC IN VARIOUS SECTIONS

The little buildings represent ticket stations of the subway and elevated railroad and are placed on a map of the city in their proper places. The height of the towers is in proportion to the number of tickets sold. The tower of the Brooklyn Bridge station near City Hall Square is more than twice as high as any other. The express stations, particularly on the subway, stand out prominently. Explanatory placards are placed near the table on which the model rests.

STANDARDIZING CONCRETE WORK

PROBABLY nothing has done more to promote the distribution of American machinery throughout the world than the principle, first generally introduced in this country and now being adopted elsewhere, of standardizing all machine parts so far as possible. The advantages of this standardizing are familiar to all engineers, both mechanical and civil. The same advantages would be found to apply in a number of directions where no attempt has yet been made at standardizing and for reasons similar to those which led to the adoption of this principle in machine work—decision upon and universal use of the best forms, and greatly reduced cost of manufacture and repairs.

Much has been done in municipal work along the line of such standardization of fundamental principles, such as the adoption of standard specifications for cement and cement testing, concrete, and recently for various forms of street paving. Recent developments in sidewalk, curb and gutter construction suggest the carrying of the same principle into construction details. During the past few months there have been placed upon the market forms for use in constructing concrete sidewalks, and still later for curbs and gutters, which are claimed, and it seems to us with reason, to considerably reduce the cost of construction and also improve the general appearance of the finished product, especially as to uniformity. A description of a set of forms for this purpose which appears in this week's description of Municipal Appliances illustrates the general idea which we have in mind.

The construction of such forms, we presume, requires machinery adapted for cutting out and stamping them. If every city requires some different details in its forms, then the machinery must be altered to fit the forms furnished to each city; moreover, it would be impracticable to carry any considerable amount of forms in stock where there are so many different styles and dimensions demanded. There are two general classes of variation in specifications which are involved in the standardization of these forms. The first is that of dimensions. It would seem to offer sufficient flexibility in width of sidewalk if this should vary by 6-inch increments, giving widths of 3 ft., 3 ft. 6 in., 4 ft., etc. In most cases the sidewalk has a uniform pitch toward the gutter with a plane top surface. There are cases, however, where it seems desirable to crown the sidewalk in the center and shed the water both ways, as in the case of walks in parks and private grounds with no carriage way alongside, and it would be desirable to standardize the amount of such crowning for each width of sidewalk. In the case of curbs and gutters a number of cities specify for the curb alone a height over all of 12 inches, a thickness of 6 inches at the top, and a face above the gutter of 6½ inches, with a gutter 18 inches wide, which dimensions are practically those recommended by a committee of the National Cement Users' Association. In addition it would be desirable to give the face and back of the curb a batter of one inch or more and to round the top corner with a radius of, say, one inch, with a similar curve at the joint of curb and gutter. In some cases the gutter is made level, but a slope of 1 in 12 is suggested as giving a better appearance and concentrating the flow of light rainfalls.

The above dimensions are given merely to illustrate the point. Others may be equally as good or better. But if it can once be determined what form and dimensions are preferred by the majority of cities and if these could then be adopted by the remaining cities so as to establish a standard, all forms, finishing tools and probably other material also entering into the construction could be furnished more cheaply by the manufacturers and could be kept in stock by them ready for immediate shipping, thus removing one cause of delay in carrying out such work.

If the use of forms of this kind should become at all general it seems probable that a standard will practically be set by the manufacturers, cities adopting this because of the advantage of being able to obtain such standard forms more cheaply and quickly than if they should insist upon having them made after their own slightly different ideas. It would be better, it seems to us, for the users themselves to forestall this by agreeing upon certain standards, which manufacturers would gladly adopt.

CREMATION OF THE DEAD

By JACQUES NEGRU

THE following abstract from an article in the August, 1910, special number of *La Crémation* gives a very clear account of the progress made in the hygienical way in taking care of the dead persons by cremating them.

Cremation was authorized in Europe as follows:

In 1874 in Italy.

In 1877 in the Canton of Zurich, Switzerland, and afterward in many other Swiss cantons.

In 1878 in the Great Duchy of Saxe-Coburg-Gotha, and afterward in all the other states of the German Empire.

In 1884 in Great Britain.

In 1887 in France.

In 1892 in Denmark and Sweden.

In 1898 in Norway.

In 1901 in Spain.

Cremation is also authorized in Argentina, Australia, Brazil, Canada, Chili, China, Cuba, Egypt, French Colonies, Guatemala, India, Mexico, United States and Uruguay.

The first European crematory was installed in 1876 in Milano, Italy, and now (August, 1910) there are in Europe 85 crematories in activity, of which there are:

33 in Italy—Alessandria, Asti, Bergamo, Bologna, Bra, Brescia, Como, Cremona, Ferrara, Florence, Genoa, Livorno, Lodi, Mantua, Milano, Modena, Novare, Padua, Pavia, Perugia, Plaisance, Pisa, Pistoia, Roma, San Remo, Sienna, Spezzia, Spolete, Turin, Udine, Varese, Venice and Verona.

23 in Germany—Baden-Baden, Bremen, Chemnitz, Coburg, Dessau, Eisenach, Gera, Gotha, Hamburg, Heidelberg, Heilbronn, Iena, Karlsruhe, Leipzig, Lubeck, Mannheim, Mayence, Offenbach, Poessneck, Stuttgart, Ulm, Zittau, Zwickau.

13 in Great Britain—Birmingham, Bradford, Darlington, Glasgow, Golder's Green, Hull, Ilford, Leeds, Leicester, Liverpool, Manchester, Sheffield and Woking.

7 in Switzerland—Basel, Berne, Geneva, La Chaux-de-Fonds, Lausanne, St. Gall and Zurich.

4 in France—Marseille, Paris, Rheims and Rouen.

2 in Sweden—Gothenburg and Stockholm.

2 in Norway—Bergen and Christiania.

1 in Denmark—Copenhagen.

Complete official data for countries outside of Europe were wanting, consequently only 58 crematories can be mentioned here, of which:

47 are in the United States—Baltimore, Md.; Boston, Mass.; Buffalo, N. Y.; Cambridge, Mass.; Chicago, Ill. (2 crematories); Cincinnati, O.; Cleveland, O.; Davenport, Ia.; Denver, Col.; Detroit, Mich.; Fort Wayne, Ind.; Indianapolis, Ind.; Jacksonville, Fla.; Kansas City, Mo.; Lancaster, Pa.; Linden, N. J.; Los Angeles, Cal. (four crematories); Milwaukee, Wis.; Minneapolis, Minn.; New York, N. Y. (two crematories); Oakland, Cal. (two crematories); Pasadena, Cal.; Philadelphia, Pa.; Pittsburgh, Pa.; Portland, Ore.; Sacramento, Cal.; St. Louis, Mo.; St. Paul, Minn.; San Francisco, Cal. (two crematories); Seattle, Wash.; Spokane, Wash.; Swinburne Island, N. Y.; Tacoma, Wash.; Troy, N. Y.; Union, N. J.; Washington, Pa.; Washington, D. C.; Waterville, N. Y.; Wichita, Kan., and one in Honolulu, Hawaii.

2 in Australia—Adelaide and Sydney.

2 in India—Bombay and Calcutta.

One in each of the following countries: Canada, Montreal; Mexico, Mexico City; Argentina, Buenos Ayres; Brazil, Rio de Janeiro; Chili, Valparaiso; Uruguay, Montevideo; China, Shanghai.

The annual number of incinerations in Europe, which was 2 in 1876, 56 in 1880, and reached 2,875 in 1890 and 7,401 in 1900, had increased to over 13,500 in 1909.

The total number of incinerations in Europe since 1876 up to August, 1910, was over 160,000, and in the United States up to the same date about 55,000. Adding to these the approximate number of incinerations in the crematories scattered in other countries it can be stated that at least 220,000 corpses have already been disposed of by cremation, rather than by unsanitary burial, with its loathsome putrefaction.

PNEUMATIC TESTS OF PIPE

Paper before Central States Water Works Association by
William R. Conard, Burlington, N. J.

LAST spring two separate corporations wishing to put in some pipe lines that would be absolutely tight when laid and in service, ordered from two separate manufacturers a quantity of cast-iron pipe, each purchaser specifying in addition to the usual hydrostatic test that each pipe be carefully tested with air, compressed to 50 pounds per square inch, and that while under this pressure soap and water suds be applied so as to reveal open or porous iron or defects which the hydraulic test had not developed. Because of this additional test and it being known that air will, when compressed, work through metals more rapidly than water, it was determined by the manufacturers to use nothing but the best grades of iron that would give a close and uniform texture.

The results were that in one case there were 4,954 pipes tested either hydrostatically or pneumatically; of this number 27 leaked under hydraulic pressure and 272 leaked under pneumatic pressure, those leaking under pneumatic pressure having already passed the hydraulic test; this makes a percentage of leaks of the whole quantity tested 0.545 of 1 per cent for the hydraulic and approximately 5.5 per cent for the pneumatic, or slightly over 6 per cent for the two tests. In the other case there were 2,737 pipes tested, of which 14 leaked under hydraulic and 186 leaked under pneumatic pressure, the percentage being 0.511 of 1 per cent for the hydraulic and approximately 6.8 per cent for the pneumatic, or about 7.3 for both. Analyzing further you will notice that the percentage of hydraulic leaks to the total number was but about 6.2 per cent of the total number of leaks, taking both jobs together. This proportion, however, would undoubtedly have been more evenly divided had the hydraulic pressure in testing been maintained for a longer period of time per pipe, for, as previously stated, air compressed will find its way through open or porous metal more rapidly than water compressed, but in view of the fact that all of the pipes were to be subjected to an air test subsequent to the hydraulic, both manufacturers depended more on developing leaks with the air than with the water. While it is true that both lots of pipe were laid for the purpose of carrying gas, the writer believes that in these days when the tendency is with all water works to operate as economically as possible and with as little loss of the commodity being dealt in, for the purpose of conserving the supplies already in use to their fullest extent before looking for new sources, or in considering the most economical way of conserving new sources of supply which are being considered, we should all consider seriously whether requiring a longer hydrostatic test, or in addition to the hydrostatic a pneumatic test of the pipe we purchase and lay, would not be good economy, even at the risk of having to pay slightly more for our material. In other words, whether the best is none too good, both in material and in laying, while the first cost may seem high will it not effect economies of both operation and commodity that will eventually prove considerable of a saving?

DISTRIBUTION SYSTEM IMPROVEMENTS

THE city of Bellingham, Wash., is suffering from the failure to construct its distributing system of sufficient capacity and from too many dead ends; these being of special importance in connection with the fire protection of the city, the latter because of the undesirable effect which it has upon the quality of the water. The area of the watershed is about 45 to 50 square miles, and as the annual rainfall is from 48 to 52 inches the quantity of the supply is ample beyond question. In addition, city engineer Herbert A. Whitney states in a recent report that the city could use four million gallons per day and lower the reservoir but one foot in a year's time, even with no runoff reaching the reservoir meantime. Any shortage of supply—and the National Board of Fire Underwriters has reported

that the city can not obtain a sufficient supply from the fire hydrants for adequate fire protection—is therefore entirely due to the pipes used for bringing the water to and through the city.

In view of these conditions Mr. Whitney recommends that the following standards be adopted: A minimum size of pipe of 4 inches, with a minimum supplying hydrants of 6 inches. Elimination of all dead ends by cross connections. Nothing less than 10-inch pipe for supplying hydrants in and adjacent to the fire limits. Nothing less than 8 inch under a paved street. Placing of valves on the distributing system so that any point can be cut out for repairs without putting out of service more than 500 feet of main in the important manufacturing and mercantile districts, and not more than 1,000 feet in the residence districts. That in the manufacturing, mercantile and warehouse sections hydrants be placed from 250 to 400 feet apart, and in the residence districts from 350 to 500 feet.

This recommendation seems to be a compromise between the existing conditions and the recommendations of the Board of Underwriters, the latter calling for mains of not less than 12 inches in the business districts nor less than 8 in the residence districts; the reason for this probably being that the water department would be utterly unable financially to carry out the recommendations of the latter.

FILTER PLANT OPERATION

In a paper before the Central States Water Works Association Mr. Paul Hansen, State Sanitary Engineer of Kentucky, discussed the obligations of water-works superintendents to furnish the public with water of a sanitary quality; and in this connection made the following suggestions concerning filter plants:

"It is unfortunate that the spur of competition, combined with a desire on the part of many municipalities and water companies to secure an installation at very minimum expense, has resulted in the erection of many filter plants unworthy of the name, and which have done much to throw discredit upon the process of filtration in general. Added to this, there is often a lax and unintelligent operation of filter plants, under which conditions even the most carefully designed and constructed installation will fail to give acceptable results. The first duty, therefore, of the water-works superintendent with respect to the improvement of a surface water supply that cannot be adequately protected against the possibility of pollution by patrolling the watershed is to use his influence with the people, the city officials, or his company (should the water-works be privately owned) to install a suitable filtration plant; and he should, furthermore, see to it that competent engineering advice is obtained to insure a design that represents the very best in filtration practice, for be it remembered that the filter plant stands as a bulwark between disease and the consumers.

"This much accomplished, the superintendent should set about to secure intelligent and reliable operation of the plant. In large installations this is best accomplished by employing a trained filter operator, who should be an analyst. When the size of the plant does not warrant this expense the superintendent should himself master the operation of the filters, and should acquire such knowledge of analytical methods as will enable him, with the occasional assistance of an expert, to maintain daily analytical control over the performance of his plant. Such analytical control would involve at most the following determinations: (1) Turbidity; (2) alkalinity; (3) total number of bacteria, and (4) the presumptive test for the colon bacillus. There are now engineers and other experts having laboratories who are prepared to undertake just this sort of co-operative control over filter plants with local water-works superintendents."

In case filter plants can not be or have not been installed for one reason or another, Mr. Hansen suggests the use of disinfecting by hypochlorite of sodium or of calcium. The writer is not prepared to state to what extent definite treatment may

take the place of filtration, but it should be observed that disinfection does not remove any of the objectionable physical characteristics of the water; and, moreover, it is apt to impart a medicinal taste to the water which is almost certain to give rise to popular complaint. It should also be observed that different waters require different treatment, and under no circumstances should the hypochlorite treatment be adopted until an expert has been consulted."

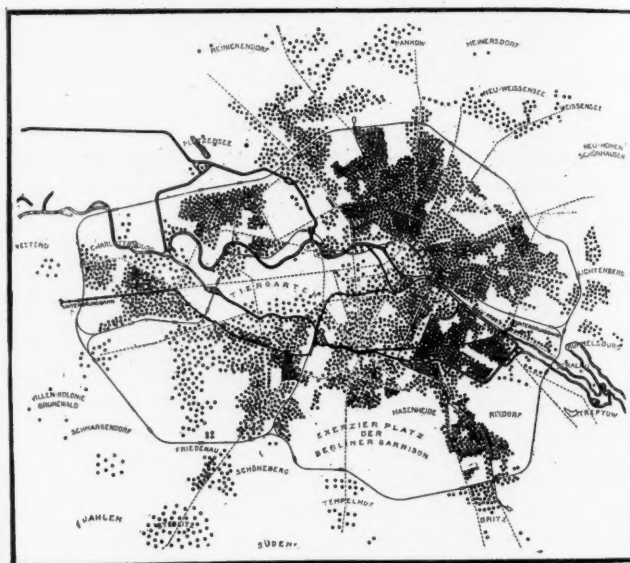
DISTRIBUTION OF POPULATION

In our issue of Oct. 5 some figures were given showing the population within the real rather than the political boundaries of certain large cities, together with the amount of riding done by the citizens thereof. In a previous issue we gave an abstract of the report of Mr. Bion J. Arnold concerning the transit problem of the city of Pittsburg, Pa., in which he called attention to the relation which density of population bears to the transit problem and the financial possibilities of improving the transit facilities. Connected with the ideas set forth in each of these articles is that of density of population versus widely scattered population centers with intervening territory but sparsely built up. As showing very diverse conditions in this respect, although neither is probably an extreme, we present herewith maps of the territories in and adjoining Berlin, Germany, and Pittsburg, Pa., which maps were included as a part of Mr. Arnold's report on the Pittsburg traction problems.

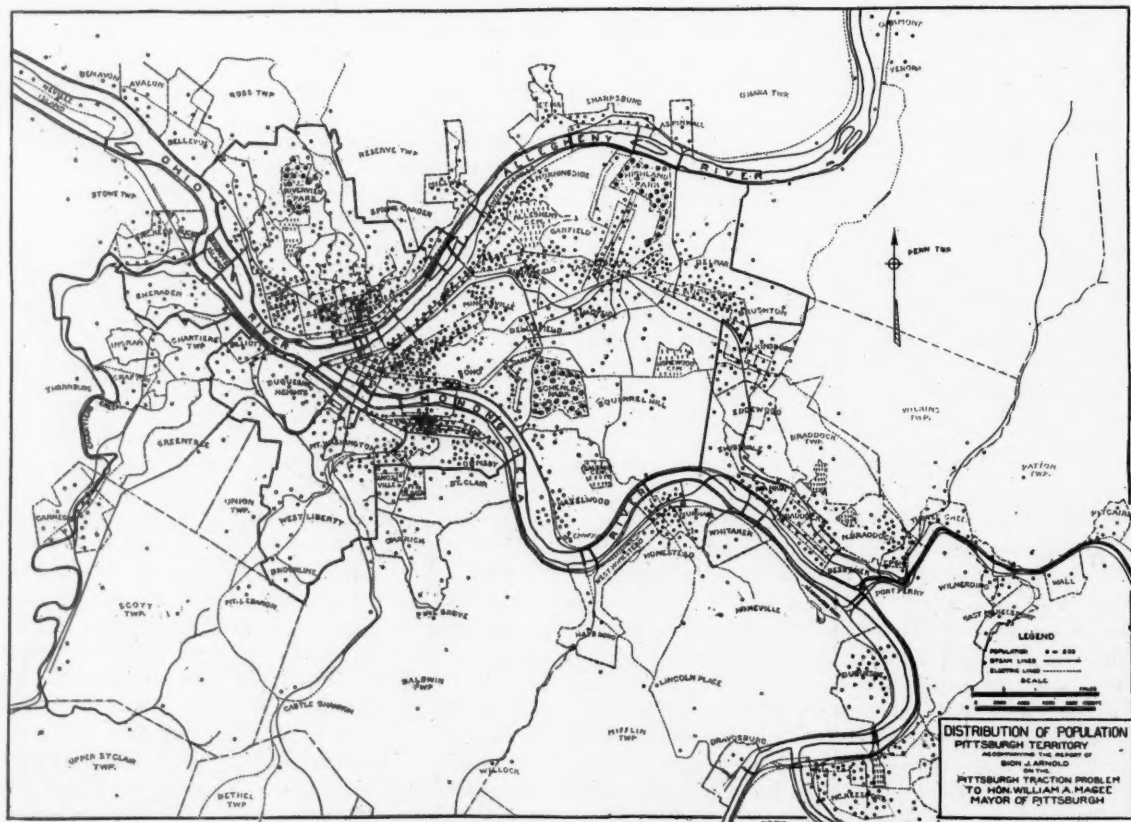
Each of these maps is seen to be covered with dots more or less uniformly placed. Each of these dots represents 500 persons and is located as nearly as possible at the center of residence of the 500 so represented. The density of dots, therefore, represents the density at each portion of the map of the "sleeping population." Both maps are reproduced so as to be on the same scale, and the much darker appearance of the Berlin map indicates how much more dense and compact is the population of that city. It appears that the population of Pittsburg and the Pittsburg district, or "Greater Pittsburg," is greatly scattered as compared with that of Berlin. The latter city has an average density of 131 persons per acre, while Pittsburg's aver-

age density of population inside the city limits is only 21 persons per acre. It follows that the surface electric lines serving Pittsburg and vicinity must be correspondingly spread out. Only about one-half of the million persons served by the Pittsburg street railway company live within the city limits.

Berlin has its own transportation problem, but it is largely one of securing sufficient capacity over the available routes. The surface, elevated and railway systems are supplemented by many omnibus lines and by the Ringbahn and Stadtbahn steam roads handling considerable suburban and city traffic. The Pittsburg problem is to so design, construct and operate the transportation system as to reach all the population centers and at the same time secure an income sufficient to make the enterprise profitable.



POPULATION MAP OF BERLIN



POPULATION MAP OF PITTSBURGH AND VICINITY

These two maps are both reduced to the same scale. Each dot represents a group of 500 "sleeping population"

SOME STREET DETAILS

Templates for Shaping Surface in Street Grading—Replacing Street Trenches—Public Bulletin Boards—Hand Sweeper Carts—Waste Receptacles

By GEO. FALK, Street Commissioner, La Crosse, Wis.
TEMPLATES FOR STREET CONSTRUCTION

THE use of templates in the construction of paved streets is a very important factor in securing the right depth in excavating and the proper shape of surface. One of the difficulties encountered in the use of such templates is the sagging, both downward and sideways, due to the weight of the lumber which it is necessary to use in order to make them strong enough to be handled without breaking. After experimenting for some time along these lines the writer has built a template satisfactory in the most important details of weight and strength. Templates of this kind built for 27, 30 and 36-foot streets have been in use during the past four seasons and have been found satisfactory in every respect. By the use of these templates all argument is avoided as to the proper depth of excavating or amount of material to be filled in. They are of great assistance in the grading of macadamized streets, but even more so on streets having concrete foundations, since by their use, concrete, while being placed, can always be brought to the proper height and shape.

The accompanying cut gives the form of construction used. The template is suspended from a frame which extends across the entire roadway. Under certain conditions this frame rests at its ends upon the curb, or upon a timber set to grade in the gutter. The frame is provided with two braced end posts attached to short sills, each of which rolls upon two casters. When these casters are to run on top of the curb, another caster is attached to the sill in such a way as to bear against the face of the curb (as shown in the illustration) to prevent the frame from running off the curb. Between the end posts, which are constructed of 3 by 3 sticks of hard wood braced by 1½ by 3-inch pieces, is the frame proper consisting of a straight top and bottom piece of ¾ by 5-inch pine, stiffened by two other pieces of ¾ by 5-inch pine in the form of a lenticular or cigar-shaped truss. The two ends of the truss boards are fastened to the end posts by means of angle pieces of wrought-iron bolted to the same. The frame is further stiffened with vertical pine boards ¾ inch by 5 inches fastened at intervals of 2½ to 3 feet; also by boards of the same dimensions cut to fit snugly between the longitudinal boards, alongside of each of which is a vertical ¾-inch iron rod passing through the top and bottom boards, with a nut on top and bottom which are kept drawn up tight.

The template proper is suspended below this frame, being held in position by flat irons attached to it which slide up and down on the face of the vertical braces; these irons being provided with slots in which slides a bolt as the template is moved up and down, a nut on the bolt providing for holding the iron, and consequently the template, at any position desired.

The templates are made in two pieces, each the half width

of the road, and the outside end is usually provided with a caster which rolls upon the gutter and assists in supporting the templates. The frame is 37 inches high. The template is about one foot high at the curb end, this and the height at the crown depending, however, upon the amount of rise in the pavement. The bottom of the template usually represents the finished grade. A piece of wood cut to the same length as the depth of sub-grade below finished grade and nailed to a stick 3 feet long makes a handy gauge for the inspector to use in taking the measurements. As the work progresses the template should be moved, not more than 3 feet each time, and measurements taken with the gauge at each position.

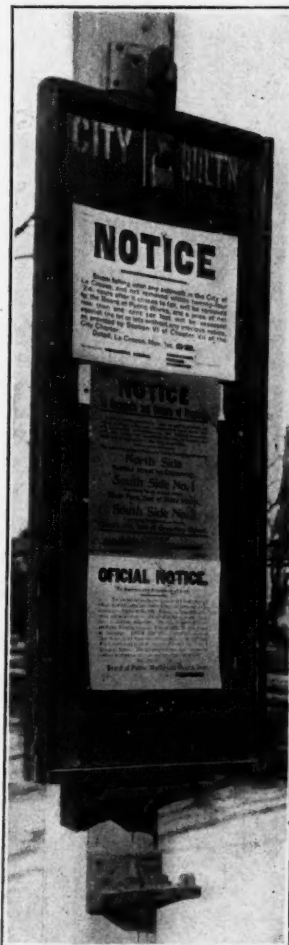
REPLACING PAVEMENT TRENCHES

In replacing trenches opened through street paving the writer prefers tamping by hand to water tamping, except that he uses water on the last layer tamped. In replacing concrete foundation he believes that the concrete should be mixed very wet in proportions of 1:3:5, this being rammed into place and brought up to such a grade as will allow a sand cushion of two

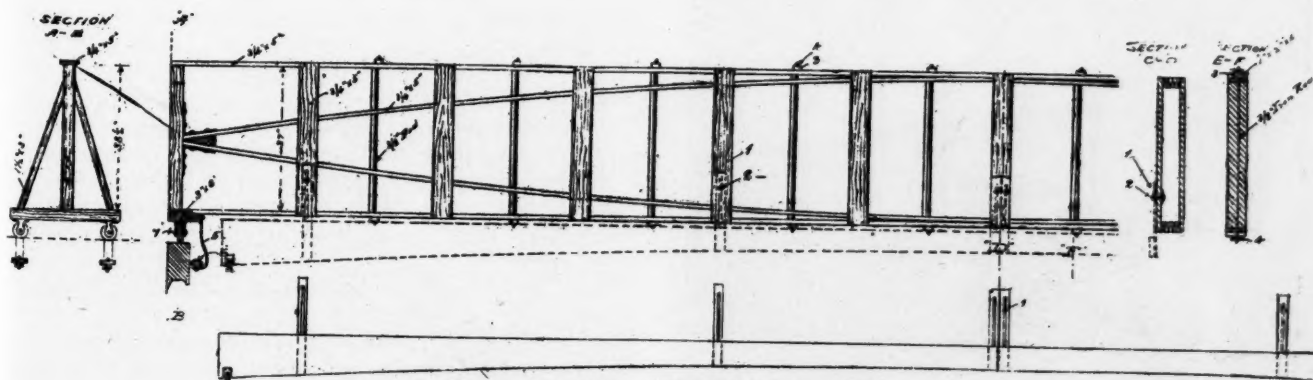
inches when brick is to be laid on top, or of one inch when wood block pavement. The brick or blocks are laid so as to extend about ¾ inch above the finished surface and then tamped with a heavy tamper until brought to grade with the surrounding pavement; a board one inch thick being laid on top of the brick to prevent the tamper breaking them and also to cause them to settle evenly. Old brick or block which are relaid are first cleaned thoroughly of any cement or tar previously used as a filler; but it may be questioned whether it would not be more economical in the long run to supply new brick or blocks.

BULLETIN BOARDS

In a number of cities, and especially towns and other small communities, the law requires the posting of notices in public places; and since communities are or should be trying to overcome the unsightly decorating of fences, buildings, telephone and telegraph poles with all kinds of advertising matter it is necessary that the authorities find some other plans for posting such notices than the use of any of the above.



PORTABLE BULLETIN BOARD



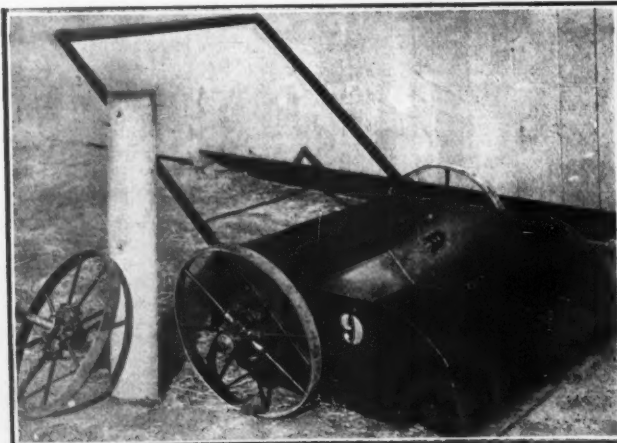
SIDE AND END VIEW OF TEMPLATE
A little more than half the template is shown

The photograph shows a bulletin board designed by the writer, which is used in La Crosse. This consists of a board 18 by 48 inches having two cleats across the back screwed to the boards with heavy screws, and a border frame extending one inch beyond the surface. Two cast-iron brackets, each having a follower, hold and secure the board firmly in place. These brackets are fastened to telephone or telegraph poles with heavy screws and are left permanently in place after the bulletin board has been removed. The lower bracket on which the board rests is made with a curve to fit on poles and has four projections extending upward, around which fits a follower which is fastened to the lower end of the board. The upper bracket is also made curved like the lower bracket and carries a horizontal projection 3 inches long, 2 inches wide and $\frac{3}{4}$ inch thick, with a hole $\frac{1}{2}$ inch in diameter through its end. This projection extends through the board near the top and beyond its front surface sufficiently far to permit a padlock to be slipped through the $\frac{1}{2}$ -inch hole. The follower of the upper bracket is a frame made to fit around the projection and with a flange sufficiently wide to allow screws to be used when being fastened to the board. The follower of each bracket is fastened to the board permanently.

HAND SWEEPER CARTS

AFTER some years of studying the various styles of small carts or wheeled shovels used by hand street sweepers the writer has designed one which he believes has the following improvements to recommend it. Its handles are made reversible, thus allowing the operator to either pull or push it. The nose, which is made of steel, which rests upon the pavement in order to allow the dirt to be swept into the cart, is adjustable and can be moved forward as it wears back. Three bolts in the nose fit in slots cut in the base, making adjustment very easily and quickly performed. When worn out the nose can be removed and replaced with a new one without tearing the entire cart to pieces. An extra nose or two is kept on hand for emergencies.

The wheels are built of wrought-iron rim and spokes with a cast-iron hub. The hub is cast with a hollow space which is used as an oil chamber. In making up this cart the writer found that a local hardware firm handling wheelbarrows kept these wheels in stock, but the hubs were not of the right size. Consequently the hubs were cut out, a pattern of the size wanted was made, and a new hub was cast on to the spokes. The axle is made of tool steel, a small hole being drilled through one end for a split pin to hold the wheel on, and the other end having a shoulder turned on it and being threaded for a nut. This end of the axle fits into a hole in the body frame and is fastened from the inside of the cart with a lock nut. In some of the carts first made the axle was a part of the body frame, and when it was broken off by accident it was necessary to renew the entire frame. With the present construction, however, the axle, being independent of and fitted to the frame, can be replaced in a few moments with the use of a wrench.

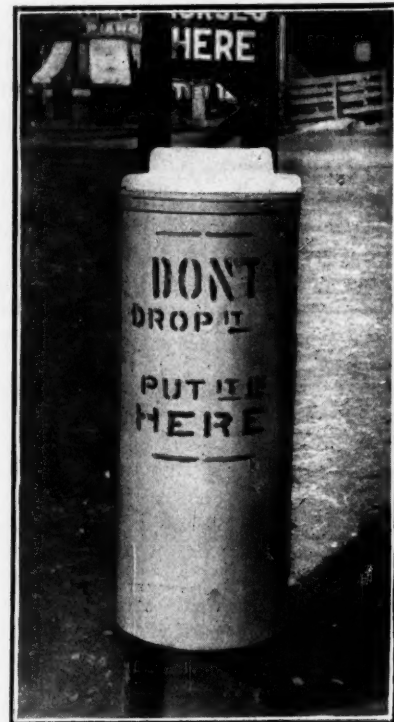


HAND SWEEPER CART, EXTRA NOSE AND WHEEL

The dimensions of the cart are as follows: Inside measurement of cart, 28 by 27 inches; depth of cart, 10 inches; from bottom of cart to top of base on which nose is fastened, $1\frac{1}{2}$ inches; steel nose, 6 inches wide; length of handles, 42 inches; axles, $\frac{3}{8}$ -inch tooled steel, 6 inches long; diameter of wheels, 16 inches. The cut shows a cart with an extra wheel and an extra adjustable nose.

WASTE RECEPTACLES

THE accompanying illustration shows a self-closing can for receiving paper and other waste, which was designed by the writer and has been in successful operation during the past



SELF-CLOSING WASTE CAN

four seasons. The can is semi-circular in horizontal section, with a flat back and is made to fit into the iron street railway poles used in this city, being held in place by a hook which engages in the lattice work of the pole. This permits easy removal for the purpose of emptying the can. The bottom of the can is perforated with half-inch holes, allowing water from rains to drain off.

The top is a cover which is made somewhat smaller than the can itself, allowing about 1 inch play between the edge of the cover and the sides of the can. The cover is fastened to a horizontal rod which extends through holes in opposite sides of the can and serves as a swivel, allowing the cover to swing downward. This rod is fastened a short distance from the back of the cover, and at the back a weight is fastened to the underside of the cover sufficiently heavy to draw the latter back to place, thus making it self-closing. The material used in the construction of the cans is heavy galvanized iron, painted. For guidance, the words "Push Down" are painted with stencil on top of the cover, and request to "Put it in Here" is stenciled on the outside of the can.

The size and shape of the can may, of course, be varied to meet different conditions as to location, etc. The can shown in the illustration is 30 inches deep and 12 inches in diameter. The half circle was adopted in order to do away with corners which might injure or at least hurt pedestrians who might strike against it.

When the cans are to be used in other locations than on street car poles, as for instance on round iron or wooden poles, a clamp collar with a hollow projection fitting around the hook or can may be used; or if the can is to be placed against a building, a staple can be driven into the wall from which the can may be suspended.

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OCTOBER 12, 1910.

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New York's Budget Exhibit

HAVING decided to give a popular exhibition which should inform the taxpayers how it is proposed to spend their money, the Department of Finance of New York City has done the matter most thoroughly and on a large scale. The exhibit is a "show," with moving pictures and efforts to compel attention by striking exhibits and circus methods of advertising. In fact, one local daily paper likened it to a county fair. That it has succeeded in attracting popular notice is undoubted, the attendance in one day being estimated at 35,000.

At first thought all this may seem undignified and calculated to merely please the curious rather than instruct the intelligent. There are, however, good reasons for this. In the first place, New York is full of shows and attractions of all kinds, and if the existence of an exhibit is to be realized by the people generally it must be advertised in a popular way. The arguments in favor of the nature of the exhibits are, to some

extent, the same as those for kindergarten work—that they instruct those who come only to be amused and who would not otherwise pay any attention to such an exhibit.

Although this plan may be the best for New York, it does not follow that other and smaller cities should be discouraged from making any attempt at similar exhibits because of their inability to do it upon such a large scale. In fact, it is doubtful whether it would be desirable for a smaller community to adopt methods of advertising and the style of exhibits exemplified by New York's Budget exhibit. In a smaller city there is usually some one spot which is visited by practically every voter at least once a week, if not daily. Consequently it would not be so necessary to advertise the exhibit in a way to compel the attention of every passer-by by glaring signs scattered throughout the city. The character of the exhibits also might be less popular and to a larger degree purely educational, since there would be fewer competitors for the attention of the voters in the smaller city. In many cities there is a much smaller percentage than in New York of those who pay little or no attention to civic affairs—these including in New York perhaps an even larger percentage of the educated than of the illiterate.

It seems to us, therefore, that the lesson of this exhibit to other cities is not so much how to do it as that it is worth while to take great pains to prepare an exhibit for this general purpose. The nature of the exhibits should be determined by each city to meet its own local conditions. In the majority of cases we believe that an exhibit smaller even in proportion to the population, and one calculated directly to give information concerning the point immediately in view, would be fully as beneficial in securing the desired end—the instruction of the taxpayers in how their money is being spent and in how it is proposed to spend it in the immediate future.

Oklahoma City Water Works

THE most rapid growth of population in the United States at the present time is found in the State of Oklahoma, and this is naturally reflected in the growth of municipal utilities in that State. In Oklahoma City, during the year ending June 30, 1910, the report for which has just reached us, the amount of water mains was increased from 55½ miles to 75½ miles, an increase of 32.1 per cent. The fire hydrants were increased 31.3 per cent, the total now being 582; the service connections were increased 37.4 per cent and now total 8,437, 3,500 of which are provided with water meters. In addition, the city has about completed an independent high-pressure fire system covering the major portion of the business district of the city; has just installed an 8,000,000-gallon, cross-compound, crank-and-fly-wheel pumping engine built by the Platt Iron Works, and has installed two electrical units to furnish light for the plant and grounds, and power to operate the low-duty pumps and the filter washing system.

The department furnishes free of cost the water used for all public purposes, such as flushing streets and sewers, and maintains the fire hydrants. During the year the total receipts were \$115,867.97, of which about 90 per cent were from the sale of water. The expenditures during the year totaled \$48,934.52, this including no fixed expenses, but merely cash expenditures. This left a cash balance of \$66,933.45. The interest on the bond issues amounted to \$30,434.12. The actual cost of the plant is not stated, but in commenting upon this Vincent G. Shinkle, Superintendent, says: "I have estimated the actual physical value of the plant at \$500,000. This valuation allows amply for depreciation and for such portions of the distributing system from which no revenue is received, the lines having been built merely to enhance the value of certain lands. If I have assumed the value of the plant too low, thus making the total earnings equal 7.2 per cent, I have more than made up for that in not including any figures to represent the value of maintenance of the fire hydrants to the city." As the average number of hydrants during the year was 512, these, at the rate of \$30 each, would add to the credit account \$15,360.

NEWS OF THE MUNICIPALITIES

Current Subjects of General Interest, Under Consideration by City Councils and Department Heads—Streets
Water Works, Lighting and Sanitary Matters—Fire and Police Items—Government and Finance

ROADS AND PAVEMENTS

Says Bad Paving Is Due to Use of Unfit Cement

Cincinnati, O.—That disintegration in the new paving on Reading road was due to the use of slag, or "puzzolan" cement, instead of Portland cement, which, it is said, should have been used, according to the specifications in the contract, is the charge made by the municipal research bureau in a recent letter to Assistant City Engineer C. E. Rasinsky. Tests of the material being used were made in several laboratories, with the result that the municipal research bureau came to the conclusion that it was not fit for the purpose to which it is being put.

Unnecessary Expense to Repair Department

Kansas City, Mo.—President William Buchholtz of the Board of Public Works has presented figures to the Mayor's cabinet showing the delay and unnecessary expense put upon the repair department. Repairing is paid for by assessments on abutting property and complicated procedures have to be gone through with. Last month \$1,195 was paid for advertising, an item of expense that has to be charged to repair work. Two solutions of the difficulty were suggested. One a charter provision to empower the Board of Public Works to repair sidewalks and tax the cost to the property after serving a written notice. The other to repair the streets from the general fund to be raised by a special wheel tax.

Mobile Asphalt Plant in Operation

Mobile, Ala.—The newly built and equipped asphalt plant built by the city at St. Anthony and Commerce streets began operations September 29, the official opening being under the direction of John T. Schley, president, and Chief Engineer Wright Smith of the Board of Public Works. Cuban asphalt will be purchased from the Conway Company, of Chicago, who have a refinery at Pritchard, for use in the repair work now going on.

Paving Brick Are Scarce

Peoria, Ill.—Although there are a number of brick paving ordinances on the books and the city has awarded contracts for the improvement of a number of streets, it is hardly probable that much work along this line will be started until next spring. This is because of the scarcity of brick. Contractors declare that it is almost impossible to secure paving brick at the present time, the supply of the factories having been entirely consumed this summer.

City Will Increase Repair Gang

Philadelphia, Pa.—After 40 days of experiment with an emergency gang of street pavers, Mayor J. E. Reyburn has decided to employ a second force, and in addition to the 30 men who have been at work in West Philadelphia he has put an additional gang to work in the vicinity of South and Second streets. The ordinance to authorize an emergency corps for making street repairs instead of leaving the work to contractors will likely be reported back to Councils at the next meeting by the Highway and Finance committees. The Mayor is gathering some statistics to show that splendid progress is being made by the city employees on work that the contractors declared that they could not get sufficient men to perform. At present the city pavers are at work on granite block streets, but in the future will take up asphalt repairs.

Trolley Company Bows to Paving

Shenandoah, Pa.—The trouble between Borough Council and the Schuylkill Railway Company, whose tracks were ripped out two weeks ago on the refusal of the company to pave its right of way on Coal street, was amicably adjusted last week when President Powell Evans, of Philadelphia, informed Council that the company would pay its pro-rata share.

Poor Sidewalks

Jersey City, N. J.—The sidewalks in Jersey City are, generally speaking, in a deplorably bad condition. This is so especially in the Lafayette and Hudson City sections. For long stretches in many places the flags are broken or else laid so unevenly as to offer a menace to unwary pedestrians. The lower northern part of the city is also exceedingly deficient in the matter of decent sidewalks. In some of the streets running east and west the walks are the merest apologies.

No New Work Until Old Is Finished

Portland, Ore.—City Engineer Morris has issued orders to all paving contractors that no new work on streets shall be started this fall unless ordered by him. He also has instructed them to concentrate their working forces on the streets now being paved, in an effort to complete all the unfinished work before the rainy season shall start. Morris said that he believed the contractors would be able to complete all the work now in progress before the winter season shall start and that few, if any, streets would remain open during the rainy weather. He believed three or four more weeks of work would find most of the jobs completed and the work accepted. For weeks many blocks have been in such a torn-up condition that they been impassable. The street grading was done preparatory to laying hard-surface pavements and then the laying of the pavements was delayed by the construction of water mains throughout the district. The contractors for the laying of water mains have been taking their own time, and the paving companies have been forced to wait on them.

Report on Quality of Asphalt Pavement

Schenectady, N. Y.—The following is the report to Council by A. W. Dow on an asphalt pavement made of an oil asphalt. The acceptance of the pavement had been delayed several years on account of the softness of the material:

At your request I have examined the asphalt pavement on Duane avenue, from Craig street to Brandywine avenue. Four cuts were made in the pavement at points where it would be natural to expect, from traffic conditions and the physical appearance of the pavement, to find the greatest amount of wear. At none of these places did I find the wearing surface less than one and one-half inches in thickness and that its average in thickness over one and three-quarters inches. It is very evident from this that the wear under the traffic to which it has been subjected has been immaterial and that there is now little danger of the pavement disintegrating or cutting to pieces as a result of the material used in its construction. On the contrary, it is my opinion that the pavement will slowly harden up with age and continue to improve in quality. It is very likely it will turn out a long life pavement, provided the traffic does not materially increase.

The above opinion is based on the fact that pavement laid with such materials as were here used and under the formula followed, disintegrate in the early stages of their existence by scuffing up and grinding away by traffic. The time at which there is the greatest tendency for such a pavement disintegrating is during the early stages of its life and while in a soft condition. If the pavement passes through this soft stage without being materially ground away by traffic it is invariably the case that it will slowly harden and improve with age. The pavement on Duane avenue, while still soft, has passed the stage where it will grind away under traffic conditions of this street, and I am satisfied that it will slowly harden and give good service as years go by.

First Road Bonds in Kansas

Topeka, Kan.—The first bonds ever issued in Kansas for public road work have been registered by James M. Nation, State Auditor. The bonds are for \$4,777, issued by Clay township on Reno County, for the building of 8 miles of sand-clay road. The Hodges road law passed two years ago permitted the issuing of bonds for road improvement. Three-fourths of the total expense of the road is to be taxed to the abutting property and the township is to pay the balance.

SEWERAGE AND SANITATION

To Prevent Typhoid Fever

Austin, Tex.—The State Board of Health declares that the following suggestions should be followed out by the mayors and city councils to prevent typhoid fever:

Become informed as to the nature of the infection, its modes of spread and the methods to prevent it.

Make disease prevention a conspicuous policy of the administration.

Make efficiency the primary basis of appointments to positions in the Health Office.

Provide adequate salaries for Health Officers.

Appropriate funds for sanitary improvements as liberally as the taxation rates will permit.

Provide for the collection of mortality and morbidity statistics so that the results of sanitary work may be known.

Provide for the proper care of the sick.

Keep in close touch with and support the Health Officer in his work.

Co-operate with the authorities of other municipalities of the State and of the Nation.

Teach by precept and by example the precautionary measures.

Sewerage System Work Started

Centreville, Md.—Work on the sewerage here was begun last week with ceremonies in the presence of the most prominent citizens and business men of the town. The principal speaker was Senator J. Frank Harper, who fathered the bill in the last Legislature authorizing the Commissioners to issue a call to the taxpayers for an election on the question of whether or not the town should be bonded to the amount of \$10,000 for installing a sewerage system. The first pick was struck by Alfred Green, president of the Board of Town Commissioners, amid the applause of spectators. Under the contract the work must be completed in 50 working days.

Wants Commission to Consider Sewage Purification

Cincinnati, O.—The Academy of Medicine passed the following resolution covering the question of sewage treatment and the purification of the Ohio River:

Whereas, The great conquests of to-day are in prophylactic medication, not the curing of disease; so the solution of the sewage question is not in purification of the water after the pollution has taken place, rather to render the water pure by first purifying the sewage before it enters the river; therefore be it

Resolved, by the Academy of Medicine of Cincinnati, That it recommends the creation of a commission fully empowered to act, which shall thoroughly investigate local conditions, make examinations and analyses of the river water at various points before our city, and to make an actual study of the composition of the city's sewage; to study the present sewerage system in detail with reference to improving local conditions, and to so control new work that it may be readily incorporated into any general plan of sewage disposal which the growth of the city shall render necessary; be it further

Resolved, That the personnel of this commission and the authority or authorities so designated, who shall create such commission, be left to the Board of Health of Cincinnati, it being the sense of these resolutions that the health department, as an arm of the city government, is in position to determine the course of legislation required for the creation of said commission.

Board of Health Reports Epidemic of Typhoid Fever

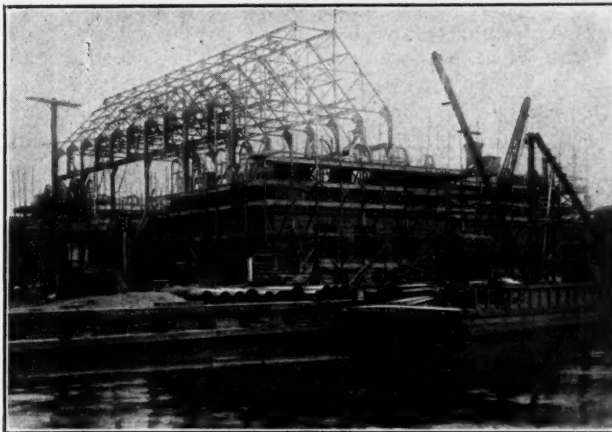
Gilbert, Minn.—The Board of Health appeared before the Council last week and reported the town was in the midst of a typhoid fever epidemic and that five cases were now being treated. The Board recommended that strenuous steps be taken to prevent the spread of the disease, and residents who fail to clean up their premises and merchants who allow their stocks to remain in an unsanitary condition will be arrested.

Bonding Company to Complete Sewer

Louisville, Ky.—Unable to finance the construction of a large sewerage system in the East End, the Blackstaff Engineering Company, of Philadelphia, through its vice-president, E. M. Lamphear, and attorney in fact, Fred Forcht, of this city, has surrendered to the Louisville Sewerage Commission a contract representing \$137,525.04. At a meeting of the Commission an agreement was reached whereby the Massachusetts Bonding & Insurance Company, surety for the Blackstaff Engineering Company, took over the contract to complete the sewer.

Sewage Pumping Station Nearing Completion

Baltimore, Md.—Rapid progress is being made on the big pumping station on East Falls avenue, which will be, in fact, the heart of the great sewerage system on which Baltimore is now expending millions of dollars. When the whole system is completed a very large proportion of Baltimore's sewage will flow by gravity to this new building



Courtesy BALTIMORE NEWS.

BALTIMORE'S MAMMOTH SEWAGE PUMPING STATION

and there will be pumped up to Chase street, where it will enter the big outfall main and flow by gravity to the disposal plant on Back River. Immense vertical pumping engines, the largest of their kind used for sewerage purposes in the country, will be installed. The building is now well under way and will be ready for occupancy in a few months.

Want Share in Expense of Joint Sewer Limited

Newark, N. J.—Fear that Newark might have to pay more than its equitable share of the \$12,250,000, which the Passaic Valley Trunk Sewage Commission is authorized to spend on the big flume, caused the Board of Works last week to lay over the consideration of a contract between the city and the Commission. The wording of the proposed contract and of the law under which the Commission acts, the city officials thought, placed no real limit on what each municipality might have to pay.

As explained by Chief Engineer Sherrerd, the contract provides that the Commission may spend the \$12,250,000 and collect a portion of it each year from the contracting municipalities. The engineer raised the point that if this city should sign such a contract, and then some of the other places in the drainage area, such as Paterson, should decline to enter into the arrangement, it would leave Newark in the position of having to bear more of the \$12,250,000. The matter was finally referred to the engineer, the city counsel and President Denman to arrange with Common Council to have a clause inserted in the contract that would provide that this city would pay only its share, based on the assumption that all other municipalities enter into the agreement.

Sewer Clogged By Roots

Rochester, Ind.—The cause of the stopping up of the sewer system of Rochester has at last been found. Workmen, after going over nearly the entire system, found a large network of roots of a Carolina poplar, over 30 feet long, in the pipes. The passageway was closed so tightly that the water could barely seep through. The tree, which grew nearly 25 feet away, is a monster, but its life will be short, as it is generally thought that the Council will pass an ordinance that will compel citizens to chop down all poplar trees. Similar trouble has been had by other municipalities all over the country where poplars are pronounced a nuisance.

Meat Ordinance in Talladega

Talladega, Ala.—The City Council has adopted an ordinance making it unlawful to transport beef or other fresh meats through and along the streets of Talladega except in wagons or vehicles which are thoroughly screened, or unless such meats are covered with a cloth of sufficient size to keep flies from alighting thereon.

WATER SUPPLY

Value of Filtration Plant Demonstrated

Binghamton, N. Y.—Recent rains over the northern portion of the watershed supplying the Susquehanna River has caused a pollution of the stream, which for several days has been noticeable in the water supply. The downpour has washed a large amount of sewage into the river and an analysis of the city water made by City Bacteriologist Nelson from samples showed the presence of sewage bacteria in the raw water, but it was absent from the filtered water.

Averts a Water Famine

Bridgeton, N. J.—The Council has solved the problem of how to prevent the city from suffering from a water famine. By reason of the continued drought the area in which are located the city wells has proven insufficient for the supply of the city, and with the starting of the canning plants and the glass furnaces the consumption has been greater than could be supplied. Near the water plant is a large lake of pure water that is owned by a milling company, a water-power operating the mill. The council made arrangements with the concern to allow the city to take all the water necessary from the lake without regard to the demands of the mill, and the company agreed that if it was necessary for the city's supply to close down the mills temporarily the plant would be shut down.

Celebrate for Water Plant

Catasauqua, Pa.—Twenty thousand people assembled in Catasauqua October 1 to participate in a town celebration in honor of the completion of its splendid municipal water plant. For a long time the people of the borough had a great deal of trouble with private water companies, and eventually decided by a vote of 10 to 1 to erect their own water plant, which was constructed by George H. Hardner, Allentown, Pa., at a cost of about \$80,000. The feature of the celebration was a firemen's parade, participated in by the Phoenix Fire Company and the Southwark Fire Company, the latter having been reorganized out of the old Southwark Hose Co., of Philadelphia, organized in 1806.

Water Blamed for Fever Cases

Corning, N. Y.—Finding that seven or eight of the typhoid fever patients out of the score or more who have been reported to him this month are users of Corning city water and that the attending physicians think that the water was the source of the ailment of their patients, Health Officer Frank S. Swain has directed Superintendent William J. Heermans, of the water works, to resume giving the water supply daily treatments with chloride of lime instead of the occasional treatments which have been in use for some time past. Other typhoid cases are believed to have had their origin in contaminated milk, and tests of several of milk dealers' product is being made for typhoid germs.

South Dakota Town Building Water Works

Dallas, S. D.—Work was started last week on the new pumping system in connection with the local municipal water works plant, and on the erection of a big steel tower and tank. Dallas is fortunate enough to have seven wells, which furnish an aggregate of 500,000 gallons of water each 24 hours. It is expected the new improvements and the laying of a great deal of additional water mains will be completed before winter sets in, when Dallas will have one of the best water works in South Dakota.

Dallas Further Restricts Water Consumption

Dallas, Tex.—An ordinance was passed through all its readings at a special meeting of the Board of Municipal Commissioners to restrict the use of water. The Chief of Police was called in and requested to use as many men as possible to make careful inspections by night and by day to discover infractions of the rules. City Water Works Engineer J. M. Preston declared that the heaviest drain on the supply is between 1 and 5 in the morning. These are the hours when generally there is most of the scouring and cleaning up of buildings and the washing of vehicles in the stables and the cleaning of automobiles in the garages. The new ordinance prohibits waste from leaky fixtures, the giving away of water, use of water for sprinkling ground, the washing of vehicles and the hauling out of the city by trains except for the use of the locomotive and passengers.

Jersey City Fights for Right to Supply Large Consumer

Jersey City, N. J.—The legal fight which Jersey City is making to prevent the Delaware, Lackawanna & Western Railroad from obtaining water from another source than the Jersey City Water Supply Company took a new turn last week when Albert Wall, special counsel for the Mayor and Board of Aldermen, obtained from Vice-Chancellor Stevenson an order directing the railroad to show cause why the laying of the proposed main under Tonnele Avenue and into Jersey City should not be enjoined on the ground that it is unlawful for any person or corporation to obtain water from any source outside a municipality when that municipality has a water supply of its own and does not assent to the use of another.

The effort to restrain the laying of a main under Tonnele Avenue on the ground that without the city's consent it is unlawful to lay a water pipe in or under, over or through a public highway, was abandoned because in this instance the pipe would pass under Tonnele Avenue, but wholly within railroad property, Tonnele Avenue at the point in question being carried over the property of the railroad by a bridge. A peculiar circumstance in connection with this phase of the suit is that while in the argument which led to the abandonment of this line of attack by the city, the lawyers for the railroad maintained that by conveying to the railroad an easement in the strip of property through which it is proposed to lay the water main the city had abandoned any right to object to the laying of the main, they have now presented to the Street and Water Board a petition asking leave to lay a main in this strip. It has been discovered that while an easement was conveyed there was a reservation against the laying of water pipes.

To Get More Water from Utah Lake

Salt Lake City, Utah.—City Engineer George F. McGonagle last week went to the pumping plant at the mouth of the Jordan River to attend a meeting of officers and directors of all the irrigation and pumping companies interested in the plant. From an examination made recently Mr. McGonagle formed the opinion that by digging a new canal for a distance of about 2½ miles it would be possible to do away with at least four of the big pumps at the plant. Although no definite estimate has been made, it is thought that this change would cost about \$10,000 and in the end that it would result in a great saving in the expense of operation of this, the second largest pumping plant of its kind in the West. It will be necessary, however, to run levels and make a careful and complete survey before the feasibility of the project can be determined.

South Jordan Canal Company was represented by N. P. Petersen, East Jordan Canal Company by H. W. Brown, Utah & Salt Lake Canal Company by Peter Larsen and the North Jordan Irrigation Company by W. H. Haigh.

Sue to Stop City Meter Sales

Kansas City, Mo.—John G. Mallon and 15 other plumbers who made an unsuccessful attempt two months ago to restrain Kansas City from engaging in the business of buying water meters and selling them to consumers, brought another proceeding against the Fire and Water Board in the Circuit Court last week. The suit brought was to restrain the city from selling the meters. The sale by the city of water meters cheaper than the plumbers sell them is the real bone of contention. Judge Thomas J. Seehorn would not grant the temporary injunction asked for until after a hearing. In the meantime the city may continue to sell.

New Water System Increases Pressure

Lebanon, Pa.—For the first time in many years every part of the city now has ample water pressure. The putting into service of the new 20-inch main from the dams brought about the change last week. The pressure on the gauge at the Water Board's office shows over 60 pounds, as compared with its former record of 20 or 25 pounds. The water comes from dam No. 1; when dam No. 2 is finished and connected the pressure will be 20 pounds more. Tests with fire hose have convinced the fire department officials that for ordinary fires the use of engines will be unnecessary. Besides the 20-inch main, many 16 and 12 inch distributing mains have been laid, according to the plans of City Engineer Crowell.

Would Condemn Private Water Company

Niagara Falls, N. Y.—Condemnation of the plant of the Western New York Water Company, the private corporation made up of Buffalo and New York capitalists that has a monopoly on the water supply for the South End of the city is recommended by the Municipal League. Last week at the regular meeting of the League a committee was appointed to wait on the Board of Water Commissioners, and learn, if possible, what the Commission intends to do in regard to arranging with the private corporation to supply pure water to its consumers.

In a general discussion of the water situation members of the League declared themselves as opposed to any "contract" being entered into between the Board of Water Commissioners and the Western New York Water Company. It is claimed that the private corporation, under its proposal to the Board of Water Commissioners, which is now under consideration, will be able to purchase water from the city at a nominal cost, said to be actual pumping cost, and supply this water to its consumers at a rate in advance of what it now charges. No provision in the draft of the proposed contract fixes a maximum rate for water supplied by the corporation. The city now pays \$35 per year for hydrants on the mains of the Western New York Water Company and members of the League last night were of the opinion that in not tapping the city's own supply mains for hydrant service the Board of Water Commissioners have made a mistake.

Water Works a Success

Gage, Okla.—The city water works were tested last week and found to be a complete success. The water, poured through the mains for an hour and not a leak was found. The pressure was shown to be sufficient to throw water over the highest building in town. This will immediately lower the insurance and attract enterprises.

Ossining Is Boasting of Its Water

Ossining, N. Y.—Residents of Ossining, who boast of having one of the finest municipal water plants in the State, resent the reports that Westchester County towns are threatened with a water famine. They have an unlimited supply of water in storage, they say, and at no time during the existing drought has the Water Board counselled economy in the use of water. Within a comparatively short time the water system has been extended to embrace the territory last annexed to the village and the impounding capacity of the reservoirs was increased.

Laying New Mains in Minneapolis

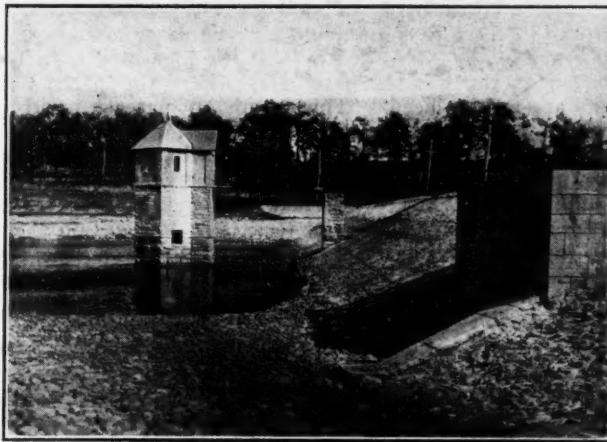
Minneapolis, Minn.—Construction of 21,000 feet of new 36-inch water mains from Camden, on Aldrich avenue to Hawthorn, and thence to Lyndale avenue, is under way. A crew of 50 men, now laying 108 feet of main a day, will be increased to 100 as soon as the additional number can be secured by the Water Works Department. The big pipe line is intended solely to supply the downtown distribution system, and will be in effect a reservoir. No taps will be made for any purpose. To transport the pipes for the new main 290 cars will be required, each carrying six lengths of pipe. Each length weighs 550 pounds and makes a wagon load. The teamsters ride in the ends of the pipes. A large electric derrick is being used to unload pipe from the cars in the Soo yards.

Manufacturer's Fire Pumps Aids City Water Works

Waterbury, Conn.—Whatever danger there was early last week of a shortage of water in the high service system, which supplies the needs of 15,000 people in this city, vanished when the big fire pumps of the Waterbury Manufacturing Company were started up and run night and day, forcing a million gallons and more of water from the low service system to the high service level. Thanks to the activity of City Engineer R. A. Cairns and Superintendent of Water John R. Walker, the committee appointed to deal with the emergency which the city faced, and to the helping hand extended by Frederick S. Chase, of the corporation, it was possible to accomplish in less than a week what would have brought the city to the verge of a water famine in several sections had the original plan been adhered to.

Low Water in Yonkers Reservoir

Yonkers, N. Y.—Water Superintendent Peene said, last week that he could not issue a statement as to whether there was a decrease in the use of water in this city since the Mayor's proclamation urging the people to observe economy during the water shortage. "There is about four weeks' supply in the Grassy Sprain reservoir," he said,



DAM, GRASSY SPRAIN RESERVOIR



Courtesy YONKERS HERALD.

LARGEST OF SEVERAL LAKES IN GRASSY SPRAIN RESERVOIR

"about 200,000,000 gallons. The capacity is 900,000,000 gallons. There are 165 acres embraced in the reservoir, but the water is now about 16 feet below the spillway. (On September 1 it was 7 feet below.) The feeders for this reservoir are the Sprain Brook and Grassy Sprain Brook. About 2,000,000 gallons a day are being used from the Saw Mill River, which furnishes an average of 8,000,000 to 10,000,000 gallons. The tube wells provide 750,000 gallons."

May Install New Meters

Spokane, Wash.—To solve the problem of raising about \$200,000, which will be necessary if the City Council decides to authorize the compulsory installation of meters throughout the city, Water Commissioner George W. Armstrong has evolved a scheme which will not make a bond or warrant issue necessary. The Commissioner will recommend to the City Council that the cost of installing the meters be paid by the city by raising the water rates.

Main Crossing Swift Current Fails

Tacoma, Wash.—Commissioner Nicholas Lawson, of the Department of Light and Water, has reported to the Municipal Commission, at its executive session, that Contractor W. B. Anderson had completed his contract of laying a 12-inch cast-iron main across the Puyallup River, in accordance with the specifications, but that the work is of no benefit to anyone. The force of the current, 15 feet a minute at times, was so great that the joints had spread, letting the water out into the river. A steel main will be laid at the river crossing at a cost of \$985. The main is to be used to supply water to manufacturing plants in a section where \$9,000 has been spent in distributing mains.

STREET LIGHTING AND POWER

Chicago to Double Number of Street Lights

Chicago, Ill.—Chicago is to be the best lighted city in the world, according to the trustees of the Sanitary District Drainage Board, who last week closed a contract with the city for providing street lights for the entire city, taking over the transmission lines owned and operated by the city. These lines taken are to be paid for within seven years at a rate of interest given on its bonds. The city now operates 12,000 arc lights. This number will be increased to 22,600 as soon as the Council designates where the 10,000 new lights are to be placed. "This means an increase in street lights of nearly 100 per cent," said President McCormick, "and is equal to a doubling of the present police force, as each light is as good as a policeman in offering protection at night. The contract will take up much of our surplus energy and will give us greater territory. We will go ahead with installing the extra 10,000 lights as soon as the city notifies us where they are to be placed."

Comparing Two Systems of Arc Lights

Cincinnati, O.—Changes in the system of lighting the streets of the city will soon be made and city officials are watching with interest the fight of two of the world's greatest electrical companies contending for the job of transforming the present system. The Westinghouse Company is now displacing all of the old lamps on what is known as Circuit 31 and placing magnitite lamps in their stead. A Pittsburg engineer of the company is watching the installation of a mercury transformer in the Plum street power house. This is hoped to cause the most brilliant light the streets of the city have known.

The General Electric Company is installing what are known as four-ampere lamps, and its mercury transformer will be placed in the Walnut Hills power house. This concern's lamps will be placed in McMillan street east and after both concerns have finished their experimental work the officials of the local light company, together with its engineers, will watch a practical demonstration of the merit of the light of the two big concerns. City Electrician Wilder also will watch the tests.

Deficit Due to Improvements

Hamilton, O.—All of the municipal plants in Hamilton showed a deficit last month, according to the statement of City Auditor Grimmer. The loss is due largely to extensions and improvements now being made. The gas work shows a loss of \$1,264.86, electric light plant a loss of \$86.52 and the water works plant a loss of \$2,180.14.

Municipal Plant to Light Neighboring City

Herington, Kan.—Herington, which has built a municipal lighting plant capable of supplying more current than is needed locally, has made an agreement with the town of Hope, 9 miles away, to furnish it with electricity. Hope will pay for the transmission line. The line will follow a highway, which will be lighted with incandescent lights for its whole length, and current will be supplied to farm houses along the line.

Electric Plant Shows Profit; Gas Plant Deficit

Middletown, Mass.—The annual reports of the two branches, gas and electric, of the municipal lighting business show a queer state of affairs, in that the balances are: Gas operation, \$1,233 to debit; electric operation, \$2,967 to profit. The electric division of the plant is kept fairly up-to-date, whereas the gas section consists of a dilapidated oil gas making system; there are 3 miles of gas mains; the company has 175 consumers.

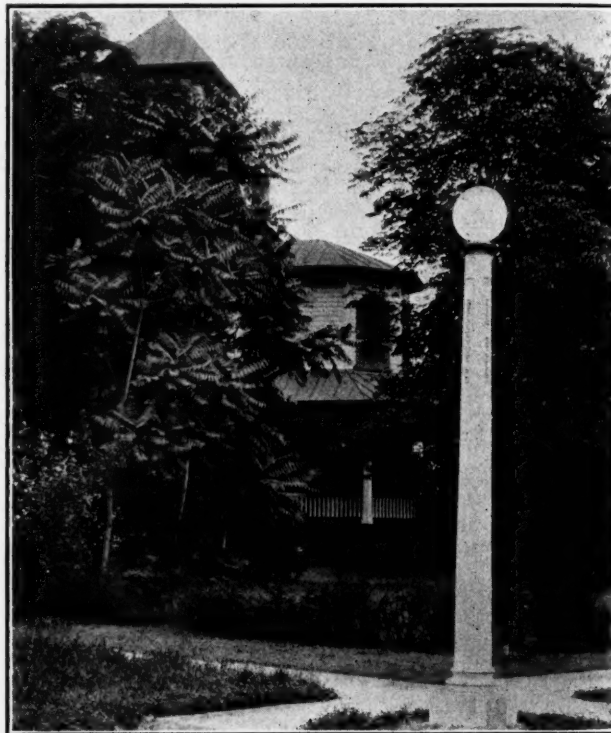
Village Lighted

Shelburne Falls, Mass.—The village was lighted for the first time by the new system being installed by the Greenfield Electric Light & Power Company. The power comes from the Gardner Falls station. There will be another light at the Shelburne end of the bridge. The lights in the business section of Bridge street are 200-candlepower and those of the other streets 32-candlepower. Several new lights have been added where they were needed. After driving through the streets last evening Selectmen Rufus

Covell and E. J. Stockwell expressed themselves as being much pleased with the new system.

Model System for Suburban District

Harrisburg, Pa.—The beneficial effect of the lighting system adopted by the promoters of Bellevue Park, Harrisburg's new suburban district, were seen last week for the first time, when 21 of the tungsten burners surmounting the concrete standards were turned on. The new section, which was recently taken into the city, has been equipped with conduits for electric and telephone wires and there is not a pole in the entire district. The standards, like those on the Mulberry street viaduct, were made by the Jandus Electric Company, of Cleveland, Ohio. They stand 9½ feet high, or just half as high as are the so-called 2,000-candlepower arc lamps in the city streets. Each standard is a



SAMPLE LAMP OF PARK LIGHTING SYSTEM

One of twenty-one 60-watt Tungsten lamps on concrete poles installed in Bellevue Park, Pa., on the Jandus system.

tapering shaft of granite white, resting on a square base. There are no edges that can be broken off and there is no part of the standards that can wear out. At the intersections of the streets the posts contain the names of the streets, the letters indented, so that at night time there are no shadows cast by the lights. These street names can be as easily read at night as in the day time. The plan of the owners of the Bellevue Park section is to place 100 of these standards throughout the park. They are placed every several hundred feet along the highways and so situated that the foliage of the numerous trees does not interfere with the reflection of the lights. The burners are covered with frosted glass globes which diffuse the light in such a way that all the walks and streets are adequately illuminated. The burners are 60-watt power, and it is estimated that if this plan of lighting were adopted in the city four or five of the burners could be used in place of one arc lamp with no increase in the amount of electricity used, and with greatly increased efficiency. The standards adopted are such as a municipality could purchase for general use. Their cost is slightly in advance of the cost of an iron trolley pole, they are much more ornamental than the wooden poles to which are attached the arc lamps and there is nothing about them that needs repairing, except the tungsten lamps.

The standards are admirably adapted for use in parks and parkways and numerous cities have already placed similar standards in their parks. The placing of the light standards in a section laid out for residences, however, is a new one, and those who visited the place proclaim it a successful move.

FIRE AND POLICE

New Requirements for Police Force Members

Auburn, Neb.—Chief of Police Bell has ordered all of the men of the force to take gymnasium work at the Y. M. C. A. and each Tuesday and Friday the members will report. The men on the afternoon beats will report in the morning and those on the night beats will report at 2 p. m. Commissioner Leonard has also promulgated an order that all members of the force reporting sick must file a doctor's certificate within 48 hours after the occurrence and every 24 hours thereafter. If the member ill is required to take outdoor exercise, he must bring a certificate to that effect, otherwise he must remain in the house.

Picked Men for Auto Engine

Charleston, S. C.—The big motor fire engine went into commission last week in the Meeting street side of the central station, and from that time on the big machine will roll to all fires causing bell alarms. Drivers of vehicles are warned by Chief Behrens to give the heavy machine room. A smart crew has been picked out to serve the engine. With the exception of the foreman, the firemen in this company are all young men, hardy and well trained with from six to eight years of experience at fire fighting. They will remain on duty permanently, drawing a full fireman's or engineer's pay, according to rank. The permanent firemen range in age from 23 to 33 years.

Six More Motor Patrols for Detroit

Detroit, Mich.—Six new motor patrols have been turned over to the Police Department by the Packard Motor Car Company and put into commission. They will be located at the following stations: Bethune, Scotten, Vinewood, Chene, McClellan and Central. This will make two motor patrols at the Central station.

Complete Fire Alarm System Installed

East Rochester, N. Y.—The Denio General Electric Company, of Rochester, has just completed the installation of a fire alarm system. A public test of the completed system was made before the Fire Board and the officers of the Fire Department. Employees of the company were on hand to make the demonstration, and showed and explained the workings of the system to all persons interested. Altogether 13 boxes have been installed. The gong and the punching register, which records on a tape the numbers of the boxes as they are rung in, are placed in the engine room of the Merchants' Despatch Transportation Company, and as soon as a fire is reported over the system, the number of the box will be blown on the large whistle at the works. The fire alarm system will be maintained by the engineer and electrician at the car shops.

No Funds for Policemen Eligible to Pension

Indianapolis, Ind.—There is disappointment in the Police Department from superintendent to patrolman since the failure of the Finance Committee of the City Council to ratify the recommendation of the Mayor and City Comptroller to increase the pension levy included in the budget from ½ cent to 1 cent. With the backing of the Mayor and the City Comptroller, it was generally expected in police circles that the increase would be made. There are between 20 and 30 men on the force who are eligible to the pension list, having served 25 years. Some are inclined to criticize the action of the committee and point out that city firemen are at this time drawing the proceeds from a 1-cent tax for their pension fund.

Looking Out for Undesirables from Neighboring Cities

Leavenworth, Kans.—Chief of Police J. T. Taylor has found it necessary to issue the following order:

The two Kansas Cities are resorting to vigorous measures to rid their places of the "undesirable citizens," and it behooves us to see to it that our city does not become the dumping ground. It is therefore ordered that every member of this department make it his especial duty to apprehend and bring to the station, day or night, every person who cannot give a good account of himself. No good citizen will feel offended if you should make the mistake of stopping him, especially at night. Be vigilant and clean up the city. By order of

J. T. TAYLOR,
Chief of Police.

Up-to-Date Fire Department

Nampa, Idaho.—Nampa is putting the finishing touches on what is said to be the best-equipped fire department in the State for a city of its size. The items making up the equipment are: Fire station, \$10,000; fire equipment, \$10,000; pumping station, \$3,500; pumping equipment, \$8,000; Gamewell fire alarm system, \$2,500. The fire station, a two-story brick structure, houses a combination hose and chemical wagon. In the dormitory on the second floor four paid men and six volunteers will sleep every night. The pumping station has a pump of 1000 gallons per minute over one well and a pump of 400 gallons' capacity over the other. Three pumps can supply water for four 1½-inch streams. The fire alarm system includes 20 boxes.

New Fire Bell Tower

Mound City, Ill.—One of the landmarks at Mound City has been torn down. The old band stand located at the corner of Railroad avenue and Main street will be displaced by a bell tower. Work was commenced last week on the concrete foundation for a tower that will be 70 feet in height. It will be constructed partly of iron and of wood. About twelve feet from the ground a platform will be built, which is to serve as a band stand. The fire bell that has hung for 15 or 20 years in the tower at Walnut, Pearl and West First streets will be placed in the new tower when completed.

Parade of Philadelphia Police and Firemen

Philadelphia, Pa.—Mayor Reyburn and Director of Public Safety Clay, with a committee of Councilmen, reviewed 2500 members of the city's police force and 800 firemen who passed the reviewing stand at Broad and Green streets, Oct. 1, on their way to the sixth annual police carnival at the Philadelphia Baseball Park. A battalion of 200 mounted men from the traffic squads accompanied the police and 50 pieces of apparatus followed the firemen. Seven bands headed the various divisions of the parade on its march, while Superintendent of Police John B. Taylor rode at the head of his men and Fire Chief James C. Baxter led the firemen.

The parade formed at Broad and Wharton streets and at 10:30 o'clock moved north on the city's chief thoroughfare. Policemen in new fall uniforms from 39 districts marched in steady lines which reached from curb to curb. The mounted men moved in two companies of two platoons each and formed an imposing part of the body. There were squads of motor-cycle policemen, City Hall guards, Park guards and a squad from the House of Correction. Chief McLaughlin, of the Electrical Bureau, saluted a picked squad of his own men from his position in the reviewing stand.

The men who represented the fire department, though less in numbers than their brothers of "the force," formed an attractive part of the parade with their 50 pieces of apparatus drawn by prancing horses. The men were attired in the dress uniform of the department and their long coats and shining buttons won applause from the women and children along the line of march.

Annual Parade and Inspection of Police and Firemen

Utica, N. Y.—The annual parade and inspection of the Utica Police and Fire Departments came off according to program yesterday afternoon and was highly creditable to all concerned. The parade formed in Broad street and the line of march was up Genesee street to Oneida square and countermarch to the City Hall, where the departments were inspected by Safety Commissioner Foley and reviewed by Mayor Gillmore, Commissioner Foley, other heads of departments, members of the Common Council and other city officials. There were 54 members of the police force and 107 members of the Fire Department in line, besides the several steamers, chemical engines, trucks and hose wagons, and the police patrol wagon, motor cycles and ambulance. The men in both departments were neatly uniformed and wore white gloves. They marched well and showed the good effects of the drills which they have for some time been having. They appeared to particularly good advantage when lined up for inspection in front of the City Hall. The fire apparatus was highly polished, indicating that it receives the best of care, and the handsome horses from the several fire houses were in the pink of condition.

GOVERNMENT AND FINANCE

City Embarrassed in Money Matters

Huntsville, Ala.—The city of Huntsville is hard up financially and there is not enough ready money on hand to pay current expenses. This has brought about a suspension of practically all public works, such as the building of bridges, laying sewer and water mains and paving streets. The two street paving companies have quit work because they see no money in sight to meet the weekly pay rolls, while the street department has shut down on a big concrete bridge that is in course of construction on West Clinton street. It is believed that everything can be worked out after the new administration takes charge and settles down to business, but it is a job for the financiers and the problem of paying the city out of debt without increasing the taxes will be difficult. The city's condition was made known by a partial report of Samuel R. Cruse, a special accountant who was employed two months ago to audit the books in the clerk's office for about four years back. The report shows among other things that special funds have been diverted from their channels and some of them have been exhausted for purposes not intended.

Public Scales Ordinance in Force in Butte

Butte, Mont.—The City Council has passed a public scales ordinance which provides that any person delivering a lot or load of coal or grain weighing more than 100 pounds must first have it weighed by a public weighmaster. Three public scales are to be installed at points designated by the Silver Row Trades and Labor Assembly, which prepared the ordinance.

Mayor to Regulate Price of Commodities

Juarez, Mexico.—Mayor Portillo is framing a new code of laws for that municipality which will work a decided change in the government of the city and the cost of living. The new code will regulate the price of all commodities, having in view the protection of the people from extortion and the tourists from being swindled. Under the laws of Mexico municipalities have this power.

Mayor Agreeably Surprised by Amount of Salary

Wellston, Mo.—Although Charles J. Roberts has been Mayor of Wellston nearly two months, it was not until last week that he discovered that he is allowed a salary of \$50 a month for his services. While signing warrants Mayor Roberts came across one for \$50 made out to himself by the City Treasurer. Mayor Roberts said: "I was naturally agreeably surprised, as I understood that the Mayor's salary was but 1 cent a month." When Wellston was incorporated and Roy C. Woods made Mayor, the Wellston City Council wanted to vote him a salary of \$75 a month. Woods refused to accept 1 cent a month. When he was succeeded by Mayor Ira R. Hicks the Council passed a bill fixing the Mayor's salary at \$50 a month. Mayor Hicks served about four months, and although the warrants for his salary were made out, he didn't cash them and drew no salary.

Municipal Bonds as Basis for Emergency Currency

Washington, D. C.—Secretary MacVeagh, in response to requests from many bankers, has made a further interpretation of the emergency currency law. This decision relates particularly to bonds of counties which national banks might wish to use as a basis for issues of emergency currency during financial stringency, but is applicable to the bonds of States, towns, counties or territories which come within the terms of the act. The law provides that city bonds may be used for issues of notes when the funded indebtedness of the municipality which issued them does not exceed by 10 per cent the value of its taxable property, last fixed for assessment purposes. The Secretary holds that the net funded debt of a city is the sum of its entire bonded debt less bonds not sold or which have been rebought as for a sinking fund. He also holds that the assessed value upon which taxes are levied is the value referred to in the law, except in cases where a State provides for an assessment at one value and taxation at a lesser rate. In the latter instance the Treasury will take the higher rate as the basis. Water bonds of a city or the bonds of a self-sustaining municipal enterprise are acceptable to the Treasury.

STREET CLEANING AND REFUSE DISPOSAL

Refuse Problem Getting Serious in Chicago

Chicago, Ill.—What will Chicago do with its street sweepings, ashes and other rubbish a few years hence? That is the question which is puzzling those who have charge of the disposition of the city's waste. Within three years, it is estimated, every clay hole and abandoned quarry in the city will be filled. Suitable dumping places are becoming scarce. Soon all will have been utilized. Several plans for the disposition of the city's refuse after all holes have been filled have been discussed. Among them are: The burning of all rubbish and waste matter; the filling in of excavations or low places outside the city limits; construction of an island in Lake Michigan. Building an island in the lake is an idea formulated by Robert M. Cochrane, Acting Superintendent of Streets. He declares that it could be done easily. Riker's Island in The East River, opposite 138th street, New York, was built of the city's refuse. An addition of 173 acres is now being made and when it is completed it is estimated that the "made island" will be worth two million dollars. Mr. Cochrane thinks such an island should be built in the lake and transformed into a park. In the outlying districts of Chicago ashes gathered in the alleys during the winter are used in the construction of new streets. Filling of the lowlands in the Calumet Lake district may be considered when all clay holes have been utilized.

New Street Sweepers for Houston

Houston, Tex.—Three new street sweepers have been ordered by Street Commissioner Jack Kennedy, and they will be delivered within a couple of weeks. Commissioner Kennedy recently returned from a trip through the North, where he investigated the street work of other cities, especially the experimental street paving which is now under way in St. Louis. The new sweepers are of the Austin type and have proved satisfactory in both Chicago and St. Louis. Their addition to the city's cleaning brigade will enforce that organization to a number of eleven pieces of apparatus.

Council Studies Garbage Plants

Racine, Wis.—Members of the City Council, as a committee of the whole, investigated the question of garbage incinerating plants and listened to propositions from three companies that construct furnaces of different types. G. S. Bannister, of Lewis & Kitchen, offered to install a 25-ton plant which he thought would answer the purposes for about \$15,000. Mr. Sneider, of the Dixon Engineering & Construction Co., Toledo, O., offered to build a 15-ton plant that could be operated by one man for \$20,000. R. B. Nutting, representing the Power Specialty Co., New York, thought an incinerator like those recently installed in Milwaukee would cost \$25,000 to \$35,000.

Retail Streets to Be Swept at Night

San Francisco, Cal.—The Board of Public Works has decided to sweep at night the principal streets in the downtown retail district, this having been asked by a committee of the Civic League, of which George Renner is chairman. The gang will work from 10 p. m. to 6 a. m., with one hour for lunch, and it is expected there will be no opposition by the unions with which the sweepers are affiliated, as the men will work one hour less than called for by day work for the same compensation. A system of rotation may also be arranged. There should not be nearly so much dust flying during the moist nights, and the fact of all stores being closed will prevent goods being damaged as heretofore.

RAPID TRANSIT

Entrances to Subway Station to Be Through New Buildings

New York, N. Y.—The Public Service Commission has approved an agreement with owners and lessees of property on Broadway, between Forty-second and Forty-third streets, to remove the entrances to the Times Square Subway station on the east side of Broadway, and for the construction of new entrances within the building line. This will remove the kiosks which now occupy much of the sidewalk space on Broadway. Neither of the entrances is to be closed until the new stairways are provided.

MISCELLANEOUS

Call Off Test of Smoke Ordinance

Cincinnati, O.—No test of the smoke regulations, which have been supported in police court by fining of offenders, through an appeal to the higher courts will be made in the immediate future. This was decided at a conference between a committee from the Business Men's Club, Mayor Schwab, Smoke Inspector Nelson and several of those who recently were arrested for violation of the smoke ordinance in the office of Mayor Schwab. The meeting was called at the suggestion of A. J. Conroy of the Business Men's Club, who, with W. F. Ray and George Baily, represented that organization. Others in the meeting were William Geise of the Yung Brewing Co. and Russell Chapman of the French Bros.-Bauer Co. Mr. Conroy opened the conference by saying that the Business Men's club wanted a clean city and asked that no efforts be taken to invalidate the present smoke ordinance. Of twelve concerns which had retained an attorney it was learned that four had improved the condition of their places so that no further action was necessary by the smoke department. Smoke Inspector Nelson will make another inspection of all defendants. The meeting ended in the agreement of the twelve not to test the validity of the law in the higher courts.

House Numbering Ordinance

Dallas, Tex.—With a view to completing the numbering of all the houses in the city upon the new system, 100 numbers to the block, before the end of the year, the Board of Municipal Commissioners passed an enabling ordinance. It is the purpose of the city to bear the expense of numbering more than 25,000 houses. Once placed, the numbers are to be kept in place by the owners of the property. For houses which may be erected after the completion of the numbering process the owner will be obliged at his own expense to place the proper numbers. The city has appropriated \$2,500 for this work and it is expected that a price within this will be obtained. For the purpose of numbering, the river and Main street are to be considered as base lines. All streets are to be considered as running north or south from Main street, or east or west from the river. Houses are to be numbered accordingly and prefixed to every number will be "N," "S," "W." or "E," designating the direction of the house from the base line. The city will compel the property owner, upon five days' notice, to affix to the house in some conspicuous place and in a permanent manner, the number designated. For the purpose of numbering, every 25 feet along a street shall be a number space on each side of the street.

Comfort Stations for Main Street Intersections

Cleveland, O.—Director Lea has not abandoned his plan for underground comfort stations and surface booths at main street intersections, despite the fact that City Solicitor Baker has ruled that they could not be leased or any privileges let to highest bidders for stated periods. "The city may be in a position to build these stations itself some day," he said. "I am having a plan prepared and the first may be erected as soon as funds for such a purpose are available."

Two Cities May Join in Building Docks

Duluth, Minn.—Mayor M. B. Cullum last week made an earnest plea for a municipal dock system in addressing the Duluth and Superior Aldermen at the Lenox Hotel, where the officials of both cities attended the banquet following a ball game in the afternoon. Mayor Cullum stated that in his opinion the establishment of the docks will do more for the development of the cities at the Head of the Lakes than the steel plant. He said that neither of them could make a move without benefiting the other, and he urged that they pull together for mutual advancement. He did not go into the subject in detail, but remarked that he considers it so important to both that he could not let the occasion go by without a word. He claimed that with municipal docks in full operation upon the proper scale, Duluth and Superior would be in a position to influence freight rates from the Atlantic to the Pacific. The Mayor's views met with the hearty approval of those present and his suggestion that both cities work together in each other's interests brought forth numerous seconds by later speakers.

Grade Crossing Elimination in Erie

Erie, Pa.—Consulting Engineer George H. Kimball has submitted a report on grade crossing elimination in which he makes the following recommendations:

1. That the consent of the city of Erie be not given to the erection of a new union station on the site proposed by the Lake Shore Railroad, viz., on Fourteenth street, between French and Holland streets.
2. That the city of Erie demand that the new union station be erected either at State street, or at Peach street; in other words, in close proximity to the location of the present station.
3. That, on the part of the city of Erie, an elevation of the tracks of the railroad companies proposed by them, be insisted upon.
4. That in preserving as far as possible the local freight houses along the lines of the railroads only such plan as will provide for an absolute separation of freight and passenger facilities be agreed upon.

Railroads and the Smoke Problem

Pittsburg, Pa.—Director E. R. Walters, of the Department of Health, in his annual report gives a review of the year's work, this being referred to in our issue of September 25. Dealing with the railroads' part in the smoke problem the report says:

Approximately 500 locomotives are in service daily in and around our Union Station. One hundred and ninety regular trains stop at East Liberty every 24 hours. When it is known that one-half of this number (95) must leave the Union Station and climb a heavy grade every foot of the way to Wilkensburg, starting, as they must, with a green fire and no opportunity to get up smokeless combustion before leaving the city limits, it will be seen that at least the Pennsylvania Lines East have a problem in engineering the solution of which will require time and experiment.

In summarizing the work of the railroads for the fiscal year covered by this report, we find that the Pennsylvania has kept in service 12 special smoke inspectors, have equipped 57 locomotives with smoke-abating devices, have kept 226 locomotives supplied with low volatile (less smoky) coal, have constantly supplied five locomotives with coke as fuel.

The Baltimore & Ohio Railroad has kept 55 locomotives supplied with coke as fuel while operating within the city limits.

Two hundred and seventy-seven firemen on all roads entering the city have been reprimanded, and eight firemen on all roads entering have been suspended for making excessive smoke within the city limits.

Public Work in St. Paul May Be Delayed

St. Paul, Minn.—Unless Mayor Keller and members of the Common Council can get together on the method of procedure in approving contracts awarded by the Board of Public Works all new public improvements planned for St. Paul will likely be held up for several months. Regardless of the decision of the District Court in the Dayton avenue contract case an appeal will be taken to the Supreme Court, causing further delay in obtaining an opinion on the legal method of procedure. With a view of facilitating matters pending the outcome of litigation Mayor Keller will address a message to the Common Council asking that public improvements go forward by the resolution plan. It is probable that a meeting of the Common Council will be called within the next few days to take formal action on the Mayor's proposition. It was discussed informally at a recent meeting, no quorum being present.

Washington Gains 2,000 Trees

Washington, D. C.—Washington, famous for its beautiful shade trees in streets and parks, can boast of 97,954 trees, according to the report of Trueman Lanahan, Superintendent of Trees and Parkings, for the fiscal year 1910. Mr. Lanahan reports that 4,030 new trees were planted on streets and parkings of the National Capitol during the last year, a larger number than in any year since 1885, and 30 more than in the year 1909. There were removed from the streets and parkings 2,151 trees, leaving a balance in favor of the city of 1,879 trees. The total sum expended on trees and parkings during the year was \$41,661.69.

Want to Copyright City's Name

Wilkes-Barre, Pa.—Council has decided to make an effort to have the name Wilkes-Barre copyrighted. Wilkes-Barre is the only community in the country bearing the name, a fact which is considered as a commercial asset of value in that letters and goods do not go astray.

LEGAL NEWS

A Summary and Notes of Recent Decisions—Ruling of Interest to Municipalities

Contract for Lighting Plant—Instructions

Otto Gas Engine Works v. Pepper.—A written contract for the installation of an electric light plant specifically stated what the defendant was to get, and provided that the instrument evidenced the whole contract. The contract also provided that the plaintiff was to lay a necessary concrete foundation for the plant. It was admitted that such a foundation should extend 60 inches below the floor level, and it was shown that it extended only 22 inches. When the plant was put in operation, it was found that the noise, vibration, and shock were so great as to render the building uninhabitable. Nothing was said in the contract about noise and vibration, but defendant alleged that there was a contemporaneous parol agreement that there should be no noise or vibration. In an action for the price of the plant, the court charged that if the noise and vibration were undue, and more than a reasonable man should have anticipated, a defense was made out, and permitted the jury to take into consideration the parol representation. Held, that such instructions were erroneous. In an action for the price of an electric light plant, where the court erroneously submits as a defense the existence of noise and vibration, and authorizes the jury to consider parol representations by the plaintiff, the appellate court cannot determine whether a verdict for defendant is based on failure of plaintiff to build a proper foundation according to the contract or on the erroneous portions of the charge.—Supreme Court of Pennsylvania, 77 A. R., 443.

Delinquent City Taxes—Recovery

City of Webster v. Day County.—An action by a city against a county for interest and penalties on delinquent city taxes collected and not paid over by the county is barred by the six-year statute of limitations in spite of the character of the plaintiff, and the nature of the suit as affecting plaintiff's revenue. Interest and penalties on delinquent city taxes, collected and not paid over by a county, are held by the latter under an implied, and not an express, trust; and hence no demand is necessary to start the statute of limitations running against an action for their recovery.—Supreme Court of South Dakota, 127 N. W. R., 627.

Health—Municipal Authority Over Burial

Bandel v. City of New York et al.—The Board of Health of the city of New York has power to adopt a provision in the Sanitary Code that permits for burials shall be issued only by physicians having the degree of Doctor of Medicine, notwithstanding the public health law (Laws 1909, Consol. Laws), relating to burial permits, since section 38 exempts from the provisions of the public health law the city of New York and its Sanitary Code. Sanitary Code of the city of New York, providing that burial permits shall be issued only by physicians having the degree of Doctor of Medicine, though discriminatory when applied to one licensed to practice osteopathy under the public health law, recognizing osteopathy, and declaring, in section 173, that a license to practice osteopathy shall not permit the holder thereof to administer drugs or perform surgery, because depriving him of the right to issue burial permits, is reasonable and valid.—New York Supreme Court, Special Term, Kings County, 124 N. Y. S., 869.

Park—Eminent Domain—Condemnation Proceedings

Village of Babylon v. Bergen et al.—In a special proceeding by a municipal corporation to acquire title to property for a park, on the motion to dismiss the petition at the close of plaintiff's case, it is entitled to the benefit of every fact that can be found from the evidence, and to all inferences thereby warranted. In condemnation proceedings, if the property taken forms part of a tract, the defendants are entitled to recover before the commissioners the market value of the premises actually taken, and also any damages resulting to the portion not taken. In condemnation proceedings, the evidence held to show the necessity of the acquisition of the property for a public park.—New York Supreme Court, Special Term, Suffolk County, 124 N. Y. S., 892.

Grading Streets—Injury to Adjoining Building

A city which condemned the right to extend a sloping embankment upon an adjoining lot as lateral support for a street grade had no right to place more dirt on the lot than was necessary to make the required slope, and is liable to a lessee of the lot for wrecking a building on account of filling space between it and the street to the street grade. To hold a city for injury caused by street grading contractors in placing an extra fill on an adjoining lot, plaintiff need not show that the city expressly directed the contractors to make the extra fill; it being sufficient to show that the work was the city's undertaking, and that in its course his injury was inflicted by persons in charge, in the absence of a showing by the city that the contractors were independent contractors. A city when acting in its private capacity as distinguished from its public functions is liable the same as a private corporation or individual for wrongful acts of its agents and employees while acting within the apparent scope of their authority. In a suit against a city for injury to a building, held, under the evidence, a jury question whether the injury was caused by an excessive fill made by street grading contractors. In a suit against a city for injury to a building caused by a fill made by the city in grading a street, it was a jury question whether plaintiff authorized or consented to an excessive fill where there was conflicting testimony on that point.—Supreme Court of Washington, 110 P. R., 619.

Electricity—Injuries—Contributory Negligence

Everett v. Citizens' Gas & Electric Co.—There can be no recovery against an electric light company for the death of plaintiff's wife caused by an electric current passing through a wire clothesline with which she came in contact, where the deceased or some one acting for her attached the clothesline to one of defendant's poles and a guy wire in the alley back of the yard, and a cross-arm carrying an electric wire broke, causing the wire to come into contact with the guy wire, and thus communicating the current to the clothesline.—Supreme Court of Pennsylvania, 77 A. R., 460.

Municipal Corporation—Defect in Sidewalk

Beck et ux. v. Germantown Cricket Club.—In an action against an owner of property fronting on a public street for injuries to plaintiff by her foot sinking into a hole in the board sidewalk, it is error to submit the case to the jury, in the absence of evidence that the hole existed prior to the accident, or that the board gave way under the weight of plaintiff because of weakness or decay. In an action by a traveler on a sidewalk by his foot sinking through the board walk, there is no presumption from the fact of the accident that the defect existed at any time prior to the accident, so as to charge the owner of the abutting property with knowledge thereof.—Supreme Court of Pennsylvania, 77 A. R., 448.

Waters and Water Courses—Diversion—Injunction

Ross Common Water Co. v. Blue Mountain Consol. Water Co.—On appeal from a ruling on motion for a preliminary injunction, it is the established practice to withhold any expression of opinion on the merits of the controversy until after final hearing and decree, and to determine only whether on the facts shown an injunction should have been granted or refused. A water company will be temporarily enjoined from operating artesian wells, where it is definitely shown that a large spring, whose waters are used by its owner for commercial purposes, is thereby rendered entirely dry.—Supreme Court of Pennsylvania, 77 A. R., 446.

Municipal Officers—Eligibility

Commonwealth ex rel. Salsburg v. Fenner.—Under the act of May 23, 1893, authorizing the election of a Chief Burgess in the several boroughs of the Commonwealth to hold office for three years, and not to be eligible to succeed himself, where a person was elected Chief Burgess in 1903 and served a full term of three years, and was again elected in 1906 and served for two years and eleven months, when he resigned, he is ineligible to election to the same office in 1909; the fact that the second term beginning in 1906 was wholly unwarranted by law being immaterial.—Supreme Court of Pennsylvania, 77 A. R., 463.

NEWS OF THE SOCIETIES

National Good Roads Convention—

The third annual convention under the management of the American Automobile Association, the National Grange, United States Office Public Roads, American Roadmakers' Association, National Association of Automobile Manufacturers, Farmers' Education and Co-operative Union and American Society of Equity was held September 28-30 at the Coliseum, St. Louis, Mo. Delegates were present from 26 States. The majority of the papers were of a popular nature, tending to arouse public interest in the question of better roads, and some of them were of considerable technical value. Addresses of welcome were delivered by Governor Herbert S. Hadley and Mayor Frederick H. Kreismann. Response was made by Lewis R. Speare, New York, president of the American Automobile Association. Street Commissioner J. C. Travilla, St. Louis, read a paper on city streets and boulevards, with special reference to St. Louis practice. He favored asphalt and bitulithic for wide residence streets, but did not believe them suited to narrow streets with car tracks. Wooden blocks, he said, were suited to high grade residential streets and retail business streets, where there was a demand for a noiseless pavement. He had found that the use of sand overcame the objection on account of slipperiness. It had recently been the practice in his department to use oiled sand late in the fall and in the early spring. The oil he found kept the sand in the roadway instead of allowing it to drift to the curb. Brick was a good pavement for car track streets and the less important residential streets. Granite blocks alone met the requirements in the warehouse district. Macadam he considered well adapted for city streets where property values were low and the underground work in the street had not been done. Speaking of street cleaning, he said St. Louis cleans about 500 miles per annum by contract at a cost of from \$450 to \$500. Oil for treating macadam and gravel roads is used of four grades, namely, 30, 20, 16 and 12 degree Baumé. He placed the cost of street sprinkling at from \$450 to \$700 per mile and the oil treatment at from \$400 to \$1,000 per mile, with an advantage in the latter treatment of decreased cost of maintenance.

A paper prepared by Dr. F. L. Bartlett, of Denver, president of the Chamber of Commerce, was read at the afternoon session. The topic was "High Altitude Roadways." Dr. Bartlett stated that nearly \$1,500,000 annually was expended in building and maintaining roadways throughout Colorado, many of which are so constructed as to be impervious to rain or snow, and that out of Denver alone there are twenty-six driveways, modern in every respect, leading to the foothills, into the mountains, through farming country and elsewhere. Dr. Bartlett also called attention to work now being carried out by his State's highway commissioners, by which "trunk line" highways will connect all counties in Colorado and reach to the boundary lines on either side.

Charles W. Ross, street commissioner, Newton, Mass., read a paper on "Modern Surface Treatments of Various Roads." Mr. Ross said that prior to the advent of automobiles the average cost of road maintenance was

about \$150 to \$200 per mile, but that under present conditions, unless the roads were properly treated, it would necessitate the expenditure of several times that amount of money. He said that it had been proven that the old-time method of surfacing roads with fine broken stone and sprinkling continually throughout almost the entire year was too costly. The remedy suggested was the application of a good binding material, the result of which will be to eliminate watering to such an extent and at the same time add much life to the roadway. Mr. Ross stated that if a macadam roadway be treated with tar or any of the heavier asphalt oils, costing from 7 to 15 cents per square yard, a great saving is made within two years, so far as pertains to the surface of the road and the complete elimination of the "dust devil."

"Modern Road Construction in the United States" was the topic of an extended paper by Maj. W. W. Crosby, Baltimore. Mr. Crosby said that since 1894, when New Jersey and Massachusetts commenced modern roadway construction, the development of such work throughout the country had been very rapid and was steadily increasing year after year. In the matter of surface construction the best practice in the United States is considerably in advance of the foreign, the speaker explained, and in the variety of materials used, in development of methods for using same and in recognition of proper principles to be followed the engineers of the United States can give pointers to the foreign engineers.

Harold Parker, chairman of the Massachusetts Highway Commission, read a paper on "State Roads to Meet Modern Traffic Conditions." The speaker said that wherever good roads existed large numbers of automobiles were found. That good roads made the homes of the farmers more accessible, and have caused the habitation of many farms that prior to improvement of roadway facilities had been practically abandoned. He contended that the automobile had done more to increase good roadways throughout the United States than anything else.

Joseph Hyde Pratt, Chapel Hill, N. C., read a paper on "Convict Labor in Public Road Construction." He said convict labor could be credited with hundreds of miles of roadway construction in various sections of the South. Mr. Pratt stated it was not a question of the South wanting good roads, but, inasmuch as there were few large cities in that section of the country, necessitating the bulk of funds coming from the rural districts, it was a question of how the South was to get such roadways. He declared that being at work in the open country air, and camping under sanitary restrictions, would do more to maintain the health of the convict than being confined behind prison walls. That road-building was about the only practical manner in which the Southern States could employ the time of their convicts without conflicting with free labor in manufacturing pursuits as was being done at this time.

The final address of the day was by the veteran secretary of the League of American Wheelmen, Abbot Bassett, who claimed credit for having inaugurated the first steps in the direction of improved roadways in all parts of the United States. Various statistics were quoted by Secretary Bassett to prove his contentions.

Among other resolutions passed by

the convention were the following: That all States organize State highway commissions; that the pending good-roads bill in Congress be upheld; that liberal appropriations be made for the U. S. Office of Public Roads by Congress; that the main highways throughout the country be marked with signboards; that States have laws requiring all vehicles to carry lights at night.

Fire Underwriters' Association of the Northwest—The forty-first annual meeting of the Association was marked by one of the most representative gatherings of fire insurance men in the history of the organization. One of the principal addresses was that of Franklin H. Wentworth on the significance of the fire waste. Mr. Wentworth attacked vigorously the methods of American fire hose manufacturers. He ascribed the annual waste from fire to the ignorance of the American public and contended that municipal fire departments had a large field in preventing fires as well as extinguishing them. He advocated the detailing of every member of a fire department to inspection service at least once every six months. The results of this would be clean cities and exact knowledge of the firemen as to physical conditions to be met in fighting fire. In the few cities—notably Richmond, Va.,—where an inspection system prevails, the efficacy of the idea has been amply demonstrated. As to hose the speaker said:

Many failures of apparatus occur in fire-fighting which are taken as matters of course, particularly such accidents as bursting hose or ruptured couplings, and yet such an occurrence at a critical time may turn the tide toward disaster. Such accidents occur far too often, in the case of bursting hose, and indicate insufficient care in its manufacture. Indeed, this item of public department fire hose is to-day causing our association considerable uneasiness. We believe that such hose is generally of inferior character, both as to fabric and rubber lining, and recent tests and examinations made by our committee having this subject in charge indicate that our fears are not unfounded.

Mr. Wentworth quoted a recent speech of W. H. Merritt, manager of the Underwriters' Laboratories, in which he stated that tests of sixteen different branches of fire hose received from Fire Departments in different sections of the country showed that "almost without exception these are of such inferior quality that they should not be accepted for use in a public Fire Department, and he continued:

The National Fire Protection Association has endeavored for a considerable period of years to awaken in the manufacturers of fire hose the same feeling of responsibility toward the public manifested to our knowledge of producers of other varieties of fire appliances. We feel that defective fire hose is as bad for the public as defective armorplate on a battleship or artificially sweetened milk in the stomach of a baby. It is no answer for the steel manufacturers to say that the monopolies in iron justify blow holes in steel plates; nor for the milkman to say that slow train justifies the use of poisonous chemicals in milk. Neither is it an answer that any speculative condition of the cotton or rubber markets can justify short fibres in hose-fabrics or rubber substitutes in hose-linings. The impoverishment of the people by the enormous fire-waste gives us the right to ask even those who live and thrive because of it to cooperate with us in our work for the common good.

New Hampshire State Firemen's Association—At the annual convention, Meredith, September 26, the following officers were elected: President, P. J. Sheridan, Claremont; Vice-Presidents, Charles Paquette, of Laconia; R. A. Starling, of Newmarket; H. R. Davis, of Lebanon; A. F. Curtis, of Nashua, and Fred M. Dodge, of Concord; Secretary, G. L. Osgood, Concord; Treasurer, J. D. Randall, Portsmouth; Executive Committee, George F. Whiting, of Nashua; John H. Morrison, of Meredith; Sergeant-at-Arms, Joseph Stoneham, of Boscawen.

American Prison Association—At the convention, Washington, D. C., September 30, Albert H. Hall, Minneapolis, Minn., proposed that Bertillon measurements and photographs of every citizen be taken for public record. "The United States Government ought to make its chief concern to discover, develop and realize itself, by gathering and recording full biographic and civic data of each of its component units, the life of every man," said Mr. Hall. "We have developed the registration and identification of domestic animals. Why omit the record of human life, the supreme product of creation? The task is not impossible; its benefits would be incalculable and far-reaching."

Pennsylvania State Firemen's Association—The thirty-first annual convention was held at Altoona, October 4-5. Mayor Hoyer made the address of welcome and President Long responded. The annual report was read by Vice-President Jefferson Shannon, West Chester. The treasurer's report showed a good balance, \$12,694, and no debts. The death benefit was increased from \$85 to \$100. The following officers were elected: Chief Henry F. Ferber, Scranton, President; William Wunder, Recording Secretary; James A. Gunn, Carlisle, Corresponding Secretary; A. L. Reichenbach, Allentown, Treasurer.

Civic Association of Woodbridge, Conn.—Woodbridge citizens last week started the organization of a Civic Association which aims to secure all the modern improvements for the town. The association hopes to get gas and electric lights and also to have a trolley extension into the heart of the town and better telephone service. The officers of the association, which have frequent meetings from now on, are: President, E. B. Underwood; vice-president, Prof. W. J. Wetzel of the Yale Law School; secretary, E. M. Augur, and treasurer, William Warner of Woodbridge.

New England Society of Orange—Work for the season of 1910-1911 was begun October 1, at Orange, N. J., with a discussion on the topic "City Planning." An illustrated talk was given by John Nolen, of Cambridge, Mass., a member of the executive board of the American Civic Association and members informally discussed the subject in its relation to the welfare of the Oranges.

Minnesota Medical Association—Matters of interest pertaining to the public health and welfare were discussed at Minneapolis October 5 and 6, at the annual meeting. More than 250 physicians were in attendance. The topic of public and municipal sanitation was considered at the opening meeting. Unlicensed physicians also received their share of attention and a resolution was adopted calling for more stringent enforcement of the State medical laws. The Hennepin County Medical Association was host at a smoker Thursday night.

Illuminating Engineering Society—The fourth annual convention will be held at the Johns Hopkins University, Baltimore, Md., October 24 and 25. The local members of the society are making preparations in charge of Dr. Joseph S. Ames, Professor of Physics at the University. Over 300 of the most prominent electrical engineers of the country are expected to be on hand, many of whom will read interesting papers on various phases of illumination. New theories will be advanced and everything in the line of electricity and gas will be discussed. The members of the society, which is a little over four years old, had arranged for this convention to be only for the Society and the students of the University, but in order to give those people of Baltimore who are interested in lighting questions an opportunity to hear the lectures one of the two days will be set aside for the benefit of the public. Following the convention a two weeks' course of lectures for the students has also been arranged by the authorities of the University, at which many prominent engineers will take part and demonstrations will be given. At the convention also will be given demonstrations and there will be displayed an exhibit of apparatus for experimental work in light, illumination and illuminating engineering.

Melrose Heights Improvement Club—A campaign is to be inaugurated by the club to have all the streets of Melrose, Cal., running parallel to East Fourteenth street renamed uniformly as numbered streets, commencing with East First street at the bay and extending to East Thirtieth street at the foothills. This will mean a series of continuous highways, all having only one name each, instead of half a dozen, as at present, extending from Lake Merritt to the Oakland city limits on the south. Conferences will be held with the other improvement organizations and a petition will be presented to the City Council requesting that body to make the change. The numbering of the cross avenues was also indorsed at the last meeting.

Kansas Gas, Water, Light and Street Railway Association—The men who manage and operate public utilities in many cities and towns of Kansas—otherwise the Kansas Gas, Water, Electric Light and Street Railway Association—chose new officers last week at the annual meeting at the Mercantile Club in Kansas City, Kan., and voted to hold its next meeting at Independence, Kan., in September, 1911. The list of officers follows:

President, W. A. Murrow, general manager of the Independence, Kan., Electric Light & Power Company.

First Vice-President, J. H. Rathert, superintendent of the Junction City Water Works Company.

Second Vice-President, B. F. Eyer, professor of electrical engineering at the Kansas State Agricultural College and vice-president of the Manhattan Light, Ice and Power Company.

Third Vice-President, H. A. Walker of McPherson, owner and manager of the Electric Light & Power Company at Liberal, Kan.

Secretary-Treasurer, James D. Nickerson, general manager of the Gas, Electric Light & Power Company of Newton, Kan.

Executive Board: A. M. Patton, superintendent of the Topeka Street Railway Company; L. O. Ripley, secretary of the Kansas Gas & Electric Company of Wichita; E. S. Springer, general manager of the Gas, Light & Power Company of Leavenworth.

American Society of Engineering Contractors—The first annual convention of the American Society of Engineering Contractors was held at the Coliseum, St. Louis, Mo., Sept. 26, 27 and 28. All of the sessions of the convention were short and much time was available for inspection trips; among them were a visit to the St. Louis water works at the Chain of Rocks and an inspection of some heavy sewer construction. One of these sewers has a section 38.5 ft. wide by 18.5 ft. high and is claimed to be one of the largest ever built. Over 100 members of the society are working in subcommittees in the preparation of standard specifications, contracts, cost-keeping, coal analyses, and the like. Progress reports of committees were presented. Much discussion arose, particularly with reference to the simplification of specifications and contract wording. In discussing guarantees of pavement work many of the members seemed in favor of omitting the usual 3 or 5 year guarantee clauses, believing that cities in most cases can care for their own repairs more cheaply than contractors and thus release the contractors' money necessarily tied up to carry on this work.

There were four papers read before the convention as follows: The Construction of the New Croton Dam, by Edward Wegmann and J. B. Goldsborough, illustrated with stereopticon views. George C. Warren, of Boston, presented a paper on Work Preliminary to Road Construction and Street Pavement Maintenance.

In a paper on Sewers and Sewer Construction in St. Louis H. R. Fardwell, Sewer Commissioner of St. Louis, described some of the large sewers under construction. He said that information was being obtained looking to the adoption of a new formula for storm-water flow in sewers. For the study of this problem locally, the sewers in a 520-acre typical district had been equipped with Bristol recording gauges. A number of Freitz's standard and tipping bucket rain gauges have also been installed. Mr. Fardwell called attention to this work, asking the co-operation of engineers elsewhere, saying also that St. Louis will be glad to furnish other cities with the data secured. Apropos of cost records, he said few contractors in St. Louis keep records and cost data which will enable them to protect themselves fully when submitting proposals for work. The so-called incidentals and contingencies that arise form quite a percentage of the total cost of work, and while most contractors realize in an indefinite way that these charges must be taken care of, few of them really know what they should amount to. The convention was concluded with a paper on The Illinois Waterway, by Mr. Robert Isham Randolph, secretary of the Internal Improvement Commission of Illinois.

At the regular monthly meeting in the rooms of the society, New York City, on Tuesday, Oct. 11, a paper by the Secretary, Daniel J. Hauer, entitled Some Unfair Provisions of Specifications and Contracts, was read and discussed.

Illinois Highway Commissioners—The Illinois Highway Commissioners assembled at Bloomington, October 4, in their second annual convention, 75 counties being represented. H. E. Wood and G. A. Barr, both of Joliet, delivered the principal addresses of the day, discussing a new revenue law and advocating other changes.

Southern Appalachian Good Roads Association.—The second annual meeting was held at Knoxville, Tenn., October 5-6. The 400 delegates representing every State of the association were welcomed by Col. L. D. Tyson, Mayor S. S. G. Heiskell and President W. J. Oliver. President Oliver, a practical road builder since he was 16 years old, called attention to the great waste of public money which arises from placing contracts in the hands of corrupt contractors. President Pratt, commenting on Mr. Oliver's remarks, said that road building must be taken out of politics and that competent supervision by States is a necessity. President Pratt then introduced Augustus E. Willson, Governor of Kentucky, who reviewed the growth of the good roads movement. President T. J. Hale, of the East Tennessee Good Roads Association, reviewed the work of his organization. President Pratt spoke for North Carolina, and was followed by Dr. C. P. Ambler, of Asheville, who told of what was being done in Buncombe County. J. S. Holmes, Forester of North Carolina, told of the increased profit in lumbering under the development of available roads for hauling to shipping points. W. P. Spoon, highway engineer of North Carolina, depicted methods and results of chain gangs on the highways of that State. Convicts who were first practically worthless had regained vigor and vitality and become expert road builders.

Illinois Electric Association.—Preparations are being made in Rock Island for the annual convention to be held October 25-27. The association is composed of managers and superintendents of light and power plants in the State and does not include contracting electricians nor street railway men. It is expected 250 delegates will be in attendance. F. W. Reimers, of the People's Power Company, has charge of arrangements for the convention. Sessions will be held in the Safety Building and the evening of the 26th delegates will be entertained at The Illinois, when "My Cinderella Girl" will be presented.

Calendar of Meetings

October 10-14.

American Street and Interurban Railway Association.—Annual Convention, Niagara Falls, Ontario.—H. C. Donecker, Secretary, 29 West 39th St., New York, N. Y.

October 11-16.

American Society of Municipal Improvements.—Seventeenth Annual Convention, Erie, Pa.—A. Prescott Folwell, Secretary, 239 W. 39th St., New York, N. Y.

October 19-21.

American Gas Institute.—Annual Meeting, New York City.—A. B. Beadle, Secretary, 29 W. 39th St., New York, N. Y.

October 20-21.

Ohio State Boards of Health.—Twelfth Annual Conference, Cincinnati, O.—Dr. C. O. Probst, Secretary, Columbus, O.

October 24.

Illuminating Engineering Society.—P. S. Millar, Secretary, 29 W. 39th St., New York, N. Y.

November 14-18.

National Municipal League.—Annual Meeting, Buffalo, N. Y.—Clinton Rogers Woodruff, Secretary, North American Building, Philadelphia, Pa.

November 17-19.

National Society for the Promotion of Industrial Education.—Annual Convention, Boston, Mass.—James C. Monaghan, Secretary, 20 West 44th St., New York, N. Y.

November 21-23.

City Commission Congress.—Meeting, Galveston, Tex.—R. E. L. Giles, Secretary, Galveston, Tex.

February 1-3.

Nebraska Cement Association.—Western Cement Exposition, Omaha, Neb.—Peter Palmer, Secretary, Oakland, Neb.

PERSONALS

ALCORN, H. W., City Engineer of Barberton, O., has been reappointed by the City Council for a two-year term.

ASHTON, E. C., Chief of Police of Traverse City, Mich., has been asked to resign by Mayor E. Wilhelm, as he is not thought to be in harmony with a "clean-up" policy.

BOORMAN, KITCHELL M., A. B., civil engineer, has opened an office as consulting engineer at No. 11 Cliff Street, New York City.

BURNS, ROBERT H., Assistant to Chief Engineer Kienle of the Water Department of Wilmington, Del., has resigned to accept a position with the Baltimore & Ohio Railroad on construction work at Worthington, W. Va.; he is a son of County Treasurer Robert M. Burns, of Wilmington.

CANTERBURY, JAMES R., Chief of the Fire Department of Minneapolis, Minn., has resigned and Council unanimously accepted the resignation; it is charged that he was connected with the sale of a plot of land to the city for repair shop purposes, and it is proposed to institute a suit against the Chief for \$2,300, his profit in the deal.

CARMICHAEL, THOMAS C., Aurora, Ind., has been elected Mayor, vice Willard B. Stier, resigned.

COZIER, WILLIAM C., Brooklyn, N. Y., Deputy Water Commissioner of New York City, has resigned, and Frederick T. Parsons, Deputy Water Commissioner of Queens Borough, has been appointed to the position by Commissioner Henry S. Thompson, of the Department of Water Supply, Gas and Electricity.

CULL, ROGER W., Baltimore, Md., with Morris A. Soper and John F. Williams have been named as a temporary Police Board of Baltimore by Governor Crothers pending the hearing of charges against the old Board headed by John B. A. Wheltle, which has been suspended from office.

DAY, JAMES T., La Crosse, Wis., formerly President of the Board of Public Works, has been appointed Superintendent of Parks, succeeding Richard Iverson.

DENTON, J. O., Sapulpa, Okla., was elected Mayor at the first election under the commission form of government, also the following Commissioners: G. E. Lowdermilk, J. E. Rice and J. E. Murphy.

DOWNS, RALPH, South St. Paul, Minn., a blacksmith, has been appointed Chief of Police, succeeding Paul Brown, resigned.

DRIVER, R. C., Superintendent of Parks of Lynchburg, Va., has been re-elected by the City Council.

FREDERICKS, WILLIAM J., Mayor of Garrett, Ind., died last week, aged 65 years.

GRAY, L. S., City Clerk of Attalla, Ala., has been re-elected, also City Treasurer F. W. Cox; L. Con was selected as the new Chief of Police.

GREGORY, JOHN H., has been appointed engineer on the Metropolitan Sewerage Commission of New York. Mr. Gregory was engineer in charge of the design and construction of the water purification and softening works and the sewage purification works at Columbus, O., and later was resident engineer on the Passaic Valley sewerage project at Newark, N. J.

GUNTER, WM. A., JR., Montgomery, Ala., has been inducted into office as Mayor of the city, succeeding his brother, Gaston Gunter.

HALEY, EDWARD, Chief of Police of San José, Cal., has been appointed Chief of the Fire Department, succeeding Richard F. Brown, who was killed in an automobile in San Francisco.

HANRATY, PETER, McAlester, Okla., has been elected Mayor under the new commission form of government, and H. F. Schreiner and Wallace Bond, Commissioners.

HUGHES, CHARLES E., New York, who has just been appointed to the Supreme Court of the United States, has been unanimously elected as the first honorary member of the City Club of New York in recognition of his services to the cause of good city government while Governor of the State.

JOHNSON, FOREST, Pascagoula, Miss., has been elected Mayor by the Board of Aldermen, succeeding E. J. Ford, appointed District Attorney.

JONES, DR. J. F., Mayor of Hogansville, Ga., died last week of pneumonia, aged 55 years.

KIDDER, GEORGE, San José, Cal., has been promoted to Chief of Police from patrolman, vice Edward Haley, appointed Fire Chief.

LOUGHLIN, PATRICK, Milwaukee, Wis., formerly business agent for the bricklayers' union, has been appointed Superintendent of Sewers, succeeding Henry J. Kruse.

LYON, J. P., Beattyville, Ky., has been elected Mayor, succeeding his brother, F. A. Lyon, Jr., who died in office.

MARTIN, JOHN B., Chief of Police of San Francisco, Cal., has been retired on his own application and been placed on the pension rolls on account of injuries and ill-health, due to police service.

MCCOLLUM, DR. E. P., Greensboro, Ala., has been elected Mayor without opposition.

MOUSER, DAVID M., Gilbert, Minn., has been appointed City Clerk, succeeding Clyde M. Campbell.

NICHOLSON, DR. W. A., Franklin, Pa., has been elected President of the Board of Health.

PEACH, HENRY T., Assistant City Engineer of Syracuse, N. Y., has been asked to resign by City Engineer Henry T. Allen because of continued absence from his duties on account of sickness; he is 67 years of age, has been connected with the municipal service since 1896, doing extensive work on map making, creek improvement and sewer construction; he was also for twenty years connected with the engineering work on the Erie Canal and was engaged as an engineer during the construction of the West Shore Railway.

SEALE, J. L., Vaiden, Miss., has been elected Mayor.

SHANER, H. L., City Engineer of Lynchburg, Va., has been re-elected by the City Council.

SMITH, JAMES J., Columbus, O., President of the Smith & Oby Company, has been appointed member of the Board of Health by Mayor Baehr, succeeding F. G. Bates, resigned. Mr. Smith is a sanitary engineer and will give special attention to questions bearing on this subject.

SMITH, JOSEPH U., Grand Rapids, Mich., has been placed at the head of the newly-established Detective Bureau, with a salary of \$1,500 per annum, and will relieve Chief of Police Harvey O. Carr of the details of this branch of the service; he was formerly a member of the detective force, and in recent years had conducted a detective agency.

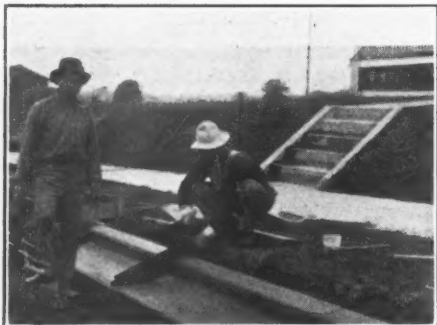
THOMPSON, E. A., Pell City, Ala., has been elected Mayor without a dissenting vote under a commission government. He is Superintendent of the cotton mill.

WILBUR, C. T., F. J. Hiller, E. W. Delmar, W. C. Antrobus and E. F. Stevens, Kenilworth, N. J., constituting the Board of Health, have tendered their resignations to the Borough Council, without assigning reasons.

MUNICIPAL APPLIANCES

Forms for Cement Curbs and Gutters

For over seventeen years, Mr. Mark S. Hotchkiss, of Binghamton, N. Y., has been engaged in concrete construction, and early in his experience realized that wooden forms for concrete work were clumsy and wasteful, and added greatly to the expense, and some years ago attacked the problem of finding a substitute which should not alone cut out



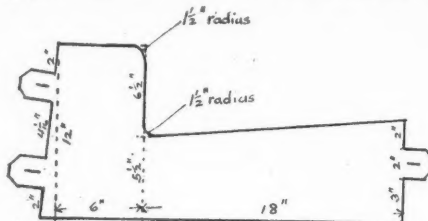
REMOVING CURB AND GUTTER TEMPLATE
Cement Still Green

the lumber cost but also eliminate to a considerable extent the labor involved in building and setting forms. The result was the invention of the interchangeable steel forms which bear his name. Those first invented were intended for the construction of sidewalks only. There were already several division-plate devices for securing clean-cut expansion joints, but all used wooden side rails which were left in position for a day or more. Mr. Hotchkiss makes his division plates lock into steel side rails, making a complete self-sustaining and self-bracing mold. This requires the side rails to be removed before the cement has set, which was a bold proposition, but it has been demonstrated that this could be done with safety, and the same forms used over several times in a day. These forms were described and illustrated in the MUNICIPAL JOURNAL AND ENGINEER of Dec. 22, 1909, although some minor improvements have been made since then.

In addition to these, the same company, the Hotchkiss Lock Metal Form Company, of Binghamton, New York, are now making forms for street crossings, for curbs and for curb and sidewalk combined. The forms for crossings consist of side rails 6 inches high and 5 feet long. These are made straight, there being enough flexibility in the joints at 5-foot intervals to follow the crowning of the pavement. The division plates are 5 feet long and are crowned 1 inch in the center to secure a draining of the cross walk. Other widths of cross walk than 5 feet can, of course, be obtained, if desired. The avoidance of the necessity of driving stakes to support the side rails is even more appreciated in the hard pavement than in the case of the sidewalk and gutters.

For constructing curbs and gutters, templates are used having the exact shape of the cross section of the curb and gutter, and with tongues at each end which lock into steel side rails similar to those used for sidewalk work. After the trench has been dug, one by one inch stakes are driven to grade and the forms are set on these, it re-

quiring less than five minutes to set up one set of forms. The concrete for the gutter is then thrown in and tamped. A 2-inch plank, one edge of which is rounded to conform to the fillet at the bottom of the curb face, is set up as a mold for the face of the curb and braced from the front rail by sticks about 19 inches long. The curb material is put in after the usual manner and tamped, while the stiff top coat material is being put on the surface of the gutter and tamped. The plank just referred to is then removed and the whole surface of both curb and gutter is struck off with a piece of angle iron, using the successive templates as guides; after which it is finished with a wooden float. Within five minutes after the finishing has been completed the lugs which lock the forms together may be knocked out, the front and back steel rails removed and the templates drawn out, leaving the expansion joints, all without in the least disturbing the surface or any other part of the work. In five minutes more



Dip of gutter - $1\frac{1}{2}$ " in 18"
Rear batter - 1" on 12"

DIAGRAM OF TEMPLATE

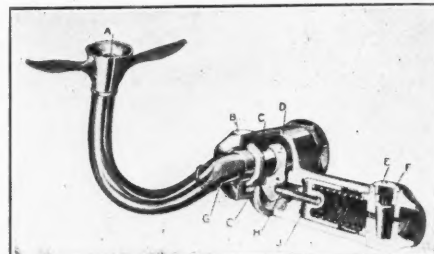
the same forms may be set up ready for another section of curb. A 20-foot section of forms is found a convenient one to work with.

If it is desired to construct curb only, without the gutter, the general construction is similar, but more rapid and simpler. The accompanying illustrations show a curb and gutter under

construction, the concrete for the gutter being in position in the larger illustration, while in the smaller the side rails and templates are being removed. A form of template recommended by the manufacturers and proposed by them as a standard is shown also.

Sanitary Drinking Fountain

THE Springfield Sanitary Drinking Fountain, made by John Hull, Jr., Springfield, Mass., works automatically. When you desire to drink, the handles upon the nozzle are pressed down, bringing the fountain forward in line



SPRINGFIELD SANITARY DRINKING FOUNTAIN

with the mouth, at the same time opening the supply valve, permitting the water to gently bubble up in a geyser-like stream, through a filter in body of fountain, the height and flow of water being adjusted by means of a simple regulating cock in flange nut, assuring a pleasant and healthful drink, free from sediment and other impurities. When the pressure is removed from the handles the arm of the fountain springs back automatically, shutting off flow of water and preventing unnecessary waste. The danger of contamination from the tongue, lips or mouth of other persons is done away with by the installation of a Springfield sanitary drinking fountain. In the illustration the details of the fountain are indicated in letters as follows: A, nozzle; B, body nut; CC, filter; D, cam; E, cap screw; F, regulating cock; G, arm; H, valve pan; J, valve washer.

The fountains are made of best red metal and brass, handsomely finished



CURB AND GUTTER CONSTRUCTION IN DIFFERENT STAGES
Sidewalk Forms Used as Front and Back Molds

and heavily nickel-plated, and, together with simplicity of construction and perfection of workmanship, it is an artistic, practical, durable, sanitary drinking device. A simple device in the nozzle of the fountain prevents the possibility of mischievous children squirting the water as is sometimes done with an ordinary faucet. The construction of the fountain is such that it is claimed it cannot possibly get out of order.

Ornamental Lamp Posts

THOS. T. W. MINER, 821 Eagle Avenue, New York, N. Y., has recently placed on the market a series of artistic lamp posts to meet the demand of gas men. He furnishes these posts with clusters of three or five lamps, or with one very large globe in which are mounted three or four burners.

The base of post is 24 inches square and 32 inches high, the fluted column is pressed steel, and the cross arms cast iron.



GAS LAMP POSTS IN IRON OR BRONZE

They are shipped painted with one coat of best metal paint, and to be finished as desired after erection. They can also furnish the column in pressed copper if required, making a more ornamental finish, and the base and arms can be bronzed to correspond.

The lamps are alabaster globes with polished copper ventilators, supplied with incandescent burners and mantles, cock and nipples and wind guards. Opposite the door in base of pedestal is placed in the three-quarter supply pipe a heavy bypass cock with set screws to adjust to gas pressure. This is regulated so that a pilot light is maintained in each burner during the daytime. A turn of the lever on the bypass cock will turn all the lights up or down by a single movement. The burners when once adjusted require no further attention.

TRADE NOTES

Cast-Iron Pipe—Chicago: Current orders for small lots are coming in at a fair rate for this time of year and foundries are looking forward to a good year in 1911. Quotations: 4-inch, \$27; 6 to 12-inch, \$26; 16-inch and up, \$25. Birmingham: In view of the tonnage in sight it is expected that quotations will be firmer. Quotations: 4 to 6-inch, \$22.50; 8 to 12-inch, \$21.50; over 12-inch, average, \$20.50. San Francisco: Business continues rather quiet. New York: More inquiry is being received from private water companies, specially for 1911 deliveries. Quotations: 6-inch, carloads, \$23.50 to \$24.

Lead—The Western market continues weak and sales have been reported there as low as 4.25c., St. Louis. The average quotation in that market, however, is 4.27½c., and most of the business being done is being transacted by outside sellers. The New York market continues firm, but there is very little buying. The American Smelting & Refining Company is making a lower price than that asked by outside sellers and it controls the market by offering the metal at 4.40c. This is cheaper than the St. Louis price, freight rates considered.

Safety in Blasting—The reception given to its new blasting circuit tester has been very gratifying to the E. I. du Pont de Nemours Powder Company, of Wilmington, Del., for the company regards the device as one of the best means of reducing the number of fatalities in connection with blasting operations. After the holes are all loaded and connected up, the blaster can readily detect with the instrument any defects in the circuit and the existence of any leaks through bare connections or frayed insulation. In locating a broken wire in a large floor blast, the instrument can be attached successively to the double lines of bore holes at the ends, so that the line containing the break is quickly found, after which the electric fuse in each bore hole in the line is gone over separately.

Asbestos Goods—For the convenience of its customers and to meet the demands of its rapidly growing trade in the vicinity of Atlanta, Ga., and Rochester, N. Y., the H. W. Johns-Manville Company, main office, 100 William St., New York, has established an office in each of these cities. The Atlanta office is located in the Empire Building, in charge of W. F. Johns, who has been traveling this territory for the company for a number of years, and H. D. Domine, formerly with the Buffalo branch of the company, is in charge of the Rochester office, which is located at 725 Chamber of Commerce.

Concrete Mixer—The Cement Machinery Corporation, Waterloo, Iowa, will increase its capital stock from \$50,000 to \$150,000. H. B. Lichty is the president and L. H. Weideman secretary. The Polygon concrete mixer manufactured by the company has a large and growing sale. Though the plant has been twice enlarged during the present year, further expansion is found to be necessary.

Corrugated Culverts—The Ritchie Corrugated Culvert Company, Ottumwa, Iowa, has awarded the contract for the construction of its new factory in Muscatine, Iowa, which will consist of a main building, 60 x 100 ft., and a boiler and engine room. It is expected that the building will be ready for occupancy by January 1.

Water Plant Sold—The San Gabriel Valley Water Company, Pasadena, Cal., has purchased from the Huntington Land & Improvement Co. the water plant which supplies the Oak Noll territory. The plant includes wells, pumping station and distributing system, with an aggregate development of about 200 inches of water. The price is said to be about \$50,000.

Complete Water Works—The contract for installing a complete water-works system at Leola, S. D., exclusive of machinery, has been let to the Des Moines Bridge & Iron Works, Des Moines, Iowa. It includes a steel tower with a tank of 50,000 gal. capacity.

Contractors' Motor Truck—A motor truck said to be suited to the use of contractors is offered by the American Locomotive Co., 1886 Broadway, New York, and 2501 Michigan Ave., Chicago. This is the Alco motor truck, which has been successfully used for commercial purposes and is claimed to represent the foremost thought of officers of the American Locomotive Co. when that engineering organization first established an automobile department in 1905. It was then realized that the power truck and wagon would largely supersede horse-drawn vehicles for hauling supplies, and that the industrial end of motor-car manufacture would be extensive and permanent. The work of designing a practical motor truck was begun at the same time as the manufacture of passenger motor cars. At the beginning of its manufacture the company established the policy that not a piece of metal should enter into the vehicle nor a feature be introduced that had not first been carefully designed and thoroughly tested by expert engineers and metallurgists. Its policy is also to forge its axles, jackshafts, brackets, torsion rods and other such essential parts in its own plant, which is equipped with all modern facilities for its needs.

Cement Plant—Construction work will begin some time this winter on the new 3,000-bbl. plant of the White Cliffs Portland Cement Company, White Cliffs, Ark. All of the machinery is to be electrically driven, mainly by means of individual motors. Power will probably be obtained from a hydroelectric development.

Cement Plant—The Dakota Portland Cement Company, Sioux Falls, S. D., has under course of construction a cement plant near the city of Chamberlain, S. D., which will have an initial capacity of 1,500 barrels daily, which will ultimately be increased to 3,000 barrels per day. Most of the heavy machinery has already been purchased and the company expects to have its finished product on the market during the coming year.

White Cement—White Portland cement is the subject of a 32-page pamphlet issued by the Sandusky Portland Cement Company, Sandusky, O. Proportions for proper combinations of the cement with white limestone or crushed marble are given for various uses, such as tile, building blocks, interior decorating, statuary, cemetery work and the coating of structural steel. Directions for hastening or retarding the process of setting and the results of tests and analyses are also given.

Drafting Instruments—Kolesch & Co., 138 Fulton street, New York, N. Y., have issued a circular concerning Richter drafting instruments for which the utmost accuracy is claimed, combined with special facilities for cleaning and adjustment.

THE MUNICIPAL INDEX

In Which Are Listed and Classified by Subjects All Articles Treating of Municipal Topics Which Have Appeared During the Past Month in the Leading Periodicals

It is our purpose to give in the second issue of each month a list of all articles of any length or importance which have appeared in all the American periodicals and the leading English, French and German ones, dealing more or less directly with municipal matters. The index is kept up to date, and the month of literature covered each time will be brought up to within two or three days of publication. Our chief object in this is to keep our readers in touch with all the current literature on municipal matters. In furtherance of this we will furnish any of the articles listed in the index for the price named after each article, except that where an article is continued in two or three issues of the paper, the price given is for each of said issues. In addition to the titles, where these are not sufficiently descriptive or where the article is of sufficient importance, a brief statement of its contents is added. The length also is given, and the name of the author when it is a contributed article.

ROADS AND PAVEMENTS

Construction and Maintenance of Parkway Roads. Paper before Brussels International Road Congress. By J. R. Rablin. 1 1-2 pp., Canadian Engineer, Sept. 29. 15 cts. 1-3 p., Engineering News, Sept. 15. 10 cts. 1 p., Engineering-Contracting, Sept. 7. 10 cts.

Roads Construction. Characteristics of Various Binding Agents. By Francis Wood. 1 p., Municipal Journal, Sept. 23. 15 cts.

Roads Construction.—Foundations. Illustrated, 1 p., Municipal Journal, Sept. 2. 15 cts.

Construction and Maintenance of Roadways in Large Towns. Paper before Brussels International Road Congress. By R. E. B. Crompton. 1 p., Surveying and Civil Engineer, Sept. 9. 20 cts.

Road Making in Alexandria, Egypt. Paper before Brussels International Road Congress. By D. E. Lloyd-Davies. 1 1-2 pp., Surveying and Civil Engineer, Sept. 9. 20 cts.

Road Making in the United States. By V. M. Pierce. 2 1-2 pp., Surveyor, Sept. 9. 20 cts.

Methods of Carrying Out Road Work in Connection with Lighting and Water Supply. General Report to the Brussels International Road Congress. By A. Fourmanois. 2 pp., Surveying and Civil Engineer, Sept. 9. 20 cts.

Foundation and Drainage of Country Roads. By V. M. Pierce. 2 1-3 pp., Engineering Record, Sept. 24. 10 cts.

Drainage of Country Roads. Notes on the. Paper before Brussels International Road Congress. By V. M. Pierce. Illustrated, 1 1-4 pp., Engineering-Contracting, Sept. 21. 10 cts.

Preliminary Work for Road and Pavement Construction. Paper before American Society of Engineering Contractors. By G. C. Warren. 1-2 p., Engineering Record, Oct. 1. 10 cts. 12-3 pp., Engineering-Contracting, Sept. 28. 10 cts. 4 pp., Municipal Engineering, October. 25 cts.

Binding Materials. Use of in the Construction of Macadamized Roadways. Paper before Brussels International Road Congress. By W. W. Crosby. 2 1-2 pp., Engineering-Contracting, Sept. 7. 10 cts.

Experiments with Road Binding Materials. Report of State Highway Department of Ohio. 2 pp., Surveyor, Sept. 2. 20 cts.

Protective Coatings for Roads in Massachusetts. Paper before Brussels International Road Congress. By A. B. Fletcher. 1 1-2 pp., Engineering Record, Oct. 1. 10 cts.

Surfacing Materials. Choice of. Report to the Brussels International Road Congress. By Richard Lemeunier. 6 pp., Surveying and Civil Engineer, Sept. 2. 20 cts.

Dustless Roads in New England. Paper before National Good Roads Convention. By A. H. Blanchard. 2 1-2 pp., Engineering Record, Oct. 1. 10 cts.

Bituminous Road Construction. Paper before Brussels International Road Congress. By G. C. Warren. 2 pp., Contractor, Sept. 15. 20 cts. 1 1-2 pp., Canadian Engineer, Sept. 29. 15 cts.

Bituminous Road Work in Germany. From Report of Chief Engineer Sperber, Hamburg, and City Engineer Franz, Frankfurt-on-the-Main, to the Association of Technical Officers of German Cities. 2 pp., Engineering Record, Sept. 17. 10 cts.

Mixed Bituminous Macadam Roads. Illustrated, 2-3 p., Municipal Journal and Engineer, Sept. 21. 10 cts.

Road Tarring in South Africa. Its economy in hilly districts. Illustrated, 1 p., Surveyor, Sept. 23. 20 cts.

Tar Macadam. A Plea for standardization. By J. W. Smith. 2 1-2 pp., Engineering News, Sept. 22. 15 cts.

Bituminous Road Terminology. Communication from Theo. S. DeLay. 1-3 p.,

Municipal Journal and Engineer, Sept. 14. 10 cts.

Maintenance of Roads. By J. M. Lynch. 3 pp., Surveyor, Sept. 16. 20 cts.

Methods of Carrying out Road Maintenance and Repair Work in Connection with Underground Pipes. Paper before Brussels International Road Congress. By E. J. Silcock. 1 p., Surveying and Civil Engineer, Sept. 16. 20 cts.

Maintenance Guarantees. From paper before American Society of Engineering Contractors. By G. C. Warren. 1-2 p., Municipal Journal and Engineer, Sept. 28. 10 cts.

Vehicles, Road. Report to Brussels International Road Congress. By Ed. Heirman. 2 1-2 pp., Surveying and Civil Engineer, Sept. 23. 20 cts.

Influence of the Weight and Speed of Vehicles on Special Structures. Report to Brussels International Road Congress. By Paul Christophe. 3 pp., Surveying and Civil Engineer, Sept. 16. 20 cts.

Road Board Circular from the Irish Point of View. Paper before Institution of Municipal and County Engineers. By J. W. Leebody. 1 1-2 pp., Surveying and Civil Engineer, Sept. 2. 20 cts. 2-3 p., Contract Journal, Aug. 31. 20 cts.

Road Board's First Circular. Width, Surface and Corners. By Reginald Ryves. 1 p., Surveyor, Sept. 2. 20 cts.

Road Board's First Circular. By Reginald Ryves. 2 pp., Surveyor, Sept. 23. 20 cts.

Sanitary Point of View. Development and Road Improvement Act from a. Paper before Royal Sanitary Institute. By Reginald Brown. 1 p., Surveyor, Sept. 9. 20 cts.

Development and Road Improvement from a Sanitary Point of View. Paper before Conference of Engineers and Surveyors. 1 p., Contract Journal, Sept. 14. 20 cts.

Oiling Park Roads in Kansas City. 1-4 p., Municipal Journal and Engineer, Sept. 28. 10 cts.

Oiling Shell Roads in Texas. 1-4 p., Municipal Journal and Engineer, Sept. 28. 10 cts.

Road Congress. Impressions Obtained at the International. Paper before Institution of Municipal and County Engineers. By F. H. Gullen. 1 p., Surveying and Civil Engineer, Sept. 2. 20 cts. 2-3 p., Contract Journal, Aug. 31. 20 cts.

Exhibit of the Office of Public Roads at the Appalachian Exhibition. By V. M. Pierce. Illustrated, 4 pp., Southern Good Roads. September. 10 cts.

Street Paving in New Orleans. Paper before League of American Municipalities. By Martin Behrman. 2 pp., Municipal Engineering, October. 25 cts.

Selection of Material and Method of Street Paving. Paper before Brussels International Road Congress. By H. C. F. Gullan. 1 1-2 pp., Engineering-Contracting, Sept. 28. 10 cts. 2 1-2 pp., Surveyor, Sept. 2. 20 cts.

Crowns, Pavement. Communication from Geo. C. Warren. 1-3 p., Municipal Journal and Engineer, Sept. 14. 10 cts.

Grade Separation at Grand Crossing. Handling Difficult. Illustrated, 2 1-2 pp., Contractor, Sept. 15. 20 cts.

Brick Pavements Given Scant Consideration by the International Road Congress. Communication from W. P. Blair. 2-3 p., Engineering News, Sept. 29. 15 cts.

Brick Roads at the International Road Congress. By E. D. Rich. 2 pp., Municipal Engineering, October. 25 cts.

Brick Paved Highways of Cuyahoga County. Illustrated, 1 1-2 pp., Clayworker, September. 25 cts.

Wooden Block Pavement Tests in Minneapolis. By D. M. Avey. Illustrated, 4 pp., Municipal Engineering, October. 25 cts.

Concrete and Macadam Streets of Richmond, Ind. 3 pp., Municipal Engineering, October. 25 cts.

Cement Streets of Fond du Lac, Wis. Illustrated, 1 1-2 pp., Municipal Engineering, October. 25 cts.

Asphalt Pavement Repairs in Chicago in 1908-9. High Cost of. Abstract of report by S. Whinery to Chicago Commissioner on City Expenditures. 4 pp., Engineering-Contracting, Sept. 21. 10 cts.

Curb and Gutter, Granite Concrete.—Cost and Specifications. 1 1-2 pp., Concrete, September. 15 cts.

SEWERAGE AND SANITATION

Sewerage of Sea Coast Towns. By H. C. Adams. Illustrated, 2 1-2 pp., Surveying and Civil Engineer, Sept. 23. 20 cts. Illustrated, 3 pp., Surveying and Civil Engineer, Sept. 16. 20 cts.

Design. Modern Procedure in District Sewer. By W. W. Horner. Illustrated, 5 pp., Engineering News, Sept. 29. 15 cts.

Outlet. Louisville Sewer. Entirely submerged by high water on steep bank of unstable silt. Supported by concrete piles carried to bed rock. 13-4 pp., Municipal Journal and Engineer, Sept. 28. 10 cts.

Unusual Sewer Outlet Structure at Louisville, Ky. Illustrated, 1 1-2 pp., Canadian Engineer, Sept. 8. 15 cts.

Trenching for a Sewer Using a Grab Bucket Excavator, with Data on Concrete Work. 1 1-2 pp., Engineering-Contracting, Sept. 28. 10 cts.

Leakage in Sanitary Sewers. By E. D. Rich. 11 pp., The Michigan Technic, January. 50 cts.

Groundwater leakage into Sanitary Sewers. From paper in Michigan Technic by E. D. Rich. 3-4 p., Engineering Record, Oct. 1. 10 cts.

Legal Points in Connection with Contracts for Sewerage Work. By H. S. Watson. 1 p., Contract Journal, Aug. 31. 20 cts.

Maintenance, Sewer, in San Francisco. 1-4 p., Municipal Journal and Engineer, Sept. 14. 10 cts.

Condition of Manhattan Sewers. Defects found during inspection by Metropolitan Sewerage Commission. Erosion, deposits, odors, obstructions, defective brick work and distortion. Illustrated, 2 pp., Municipal Journal and Engineer, Oct. 5. 10 cts.

Sewage Disposal in New York State. Continued Legislative Defeat of More Stringent Control over. 1 p., Engineering News, Sept. 15. 15 cts.

Economy in Sewage Disposal. By C. C. Smith. Paper before Royal Sanitary Institute. 1 1-2 pp., Surveyor, Sept. 23. 20 cts. 1 1-2 pp., Surveying and Civil Engineer, Sept. 23. 20 cts.

Sewage Disposal in Saskatchewan. Paper before American Health Association. By T. A. Murray. 1 1-2 pp., Canadian Engineer, Sept. 8. 15 cts.

Sewerage and Sewage Disposal. Paper before Union of British Columbia Municipalities. By Donald Cameron. 2 pp., Canadian Municipal Journal, September. 15 cts.

Sewage Disposal under Difficulties at Leicester, England. Illustrated, 1 1-2 pp., Engineering News, Sept. 22. 15 cts.

Some Considerations Regarding the Biological Purification of Sewage. By Henry Michel. 5 1-2 pp., La Technique Sanitaire, September. 50 cts.

Operating Results of the Bubbly Creek Filter Plant, Chicago. By C. A. Jennings. Illustrated, 2 1-2 pp., Engineering Record, Sept. 24. 10 cts.

Sewage Purification at Frome. Illustrated, 2 pp., Surveyor, Sept. 16. 20 cts.

Trade Effluents. Sewage Question and Treatment of. Paper before Royal Sanitary Institute. By J. D. Watson. 1 1-2 pp., Engineering Record, Oct. 1. 10 cts. 1 1-2 pp., Surveying and Civil Engineer, Sept. 16. 20 cts. 2 pp., Surveyor, Sept. 16. 20 cts.

Sterilization of Water and Sewage Effluents. By H. C. H. Shenton. 1 1-2 pp., Surveyor, Sept. 9. 20 cts.

Hypochlorite Disinfection. Advantages and limitations. Bleaching powder. Hypochlorite of soda by electrolysis. Method of applying. Emergency plants. From paper by G. A. Johnson before American Public Health Association. 21-2 pp., Municipal Journal and Engineer, Sept. 21. 10 cts.

Dilution, Sewage Disposal by. Composition of sewage. Amounts of Solids per capita. Deposits and distribution of solids in New York Harbor. Composition and diffusion of floating matters. Sedimentation in salt water. Illustrated, 3 pp., Municipal Journal and Engineer, Sept. 14. 10 cts.

Sewage Disposal by Dilution. Oil and grease. Oxygen necessary for fish life. Absorption and transmission of oxygen. Diffusion and digestion of sewage. 12-3 pp., Municipal Journal and Engineer, Sept. 21. 10 cts.

Sewage Disposal by Dilution. The problem at Rochester, N. Y. 11-2 pp., Municipal Journal and Engineer, Oct. 5. 10 cts.

Pollution of Lakes and Rivers. Necessity for action. Editorial. 1 p., The Outlook, Sept. 24. 15 cts.

To Purify the Great Lakes. 1-4 p., Municipal Journal and Engineer, Sept. 28. 10 cts.

Health Department, Liverpool. Illustrated, 11-3 pp., Municipal Journal, Sept. 2. 15 cts.

Digest of Laws Relating to Board of Health. 158 pp., Quarterly Bulletin Ohio State Board of Health, September.

Present Organization and Work for the Protection of Health in the U. S. Paper before American Public Health Association. By Walter Wyman. 10 pp., Public Health Reports, Sept. 23. 10 cts.

Typhoid and City Officials. Duties in the way of prevention. From paper by L. L. Lumsden in Public Health Bulletin. 1 p., Municipal Journal and Engineer, Oct. 5. 10 cts.

Summer Resorts and Typhoid. 1-4 p., Municipal Journal and Engineer, Sept. 14. 10 cts.

Underground Waters. Influence of, on Health. Paper before Royal Sanitary Institute. By Baldwin Latham. 1 p., Surveying and Civil Engineer, Sept. 16. 20 cts.

Influence of Underground Waters on Health. 1 1-2 pp., Surveyor, Sept. 16. 20 cts.

Sanitary Science. Advancement in. Address before Section of Municipal and County Engineers. Royal Institute of Public Health. By A. R. Binnie. 9 pp., Journal Royal Institute of Public Health, September. 60 cts.

WATER SUPPLY

Water Works, Rochester. Illustrated, 3 pp., Fire and Water, Sept. 21. 10 cts.

Mexico City's New Water Works System. Illustrated, 1 1-2 pp., Scientific American, Sept. 24. 10 cts.

Huge Water Undertaking. The London water supply. 2 pp., Water, Sept. 15. 20 cts.

Ft. William Water Supply. 11-2 pp., Canadian Engineer, Sept. 8. 15 cts.

Newport Corporation Water Supply. Illustrated, 21-2 pp., Water, Sept. 15. 20 cts.

Frimley and Farnborough Waterworks Development. 1 1-2 pp., Water, Sept. 15. 20 cts.

Pipe Joints for High Pressures. Tests of 20 styles for the San Francisco fire protection system. Groove in spigot end beneficial. Pressures required to produce leak. Illustrated, 2 1-2 pp., Municipal Journal and Engineer, Oct. 5. 10 cts.

Steel Pipes for Water Works. 2 pp., Engineering Record, Oct. 1. 10 cts.

Scraping of Water Mains. Paper before Institution of Municipal and County Engineers. By M. Sellars. 1 1-2 pp., Surveyor, Sept. 2. 20 cts. 11-2 pp., Surveying and Civil Engineer, Sept. 2. 20 cts. 1 p., Contract Journal, Sept. 7. 20 cts.

Notes on Cleaning Water Mains. 1-4 p., Municipal Journal and Engineer, Sept. 21. 10 cts.

Pipe Yard at San Francisco. Municipal. Arrangements for storing and testing 45,000 tons of pipe, hydrants and special castings. Illustrated, 2 pp., Engineering Record, Oct. 1. 10 cts.

Construction Plant and Methods of Building an 85,000 cu. yd. Rubble Concrete Dam, for the New York State Barge Canal, near Rome. Illustrated, 4 pp., Engineering-Contracting, Sept. 21. 10 cts.

Concrete Lining of the Rondout Pressure Tunnel. 4 1-2 pp., Engineering Record, Sept. 17. 10 cts.

Constructing the Elizabeth Tunnel of the Los Angeles Aqueduct. Illustrated, 1 1-2 pp., Engineering-Contracting, Sept. 14. 10 cts.

Cement Mill of the Los Angeles Aqueduct. Illustrated, 1 1-2 pp., Engineering Record, Sept. 17. 10 cts.

Reservoir of the Peoples Water Company, Oakland, Cal., New Central. By L. L. Mills. Illustrated, 1 1-3 pp., Engineering Record, Oct. 1. 10 cts.

Concrete Lined Reservoirs in Seattle. Illustrated, 2 pp., Engineering Record, Sept. 24. 10 cts.

Standpipe. Constructing a Concrete. Reinforced with round iron rods. Mixture of concrete relied upon for imperviousness. Careful grading of aggregate. Steel forms. Construction staging. Mixing and placing concrete. Illustrated, 3 pp., Municipal Journal and Engineer, Sept. 21. 10 cts.

Ornamental Standpipe at Syracuse, N. Y. Masonry shell enclosing steel tank. Artificial stone and rock faced vitrified brick used. Dome shaped roof of steel and concrete. Thickness of steel riveting and joint efficiency. By M. B. Palmer. Illustrated, 5 1-2 pp., Municipal Journal and Engineer, Oct. 5. 10 cts.

Construction Methods on a Concrete Standpipe at Westerly, R. I. Illustrated, 2 1-2 pp., Canadian Engineer, Sept. 29. 15 cts. Illustrated, 1 p., Engineering Record, Sept. 24. 10 cts.

Ancient Irrigation and Water Supply Tanks or Reservoirs of Ceylon. By W. G. Blight. Illustrated, 5 pp., Engineering News, Sept. 22. 15 cts.

Vibration in House Services. Attributed to lack of air in air chamber of pump. Also to loose ball cocks. Method of preventing former by automatic appliance. Illustrated, 3-3 p., Municipal Journal and Engineer, Oct. 5. 10 cts.

Water Purification Plant of the Chicago Stockyards. 1 p., Engineering News, Sept. 8. 15 cts.

Water: Its Purification and Use in The Industries. Types of water softeners. By W. W. Christy. 10 pp., Industrial Engineering, September. 20 cts.

Fashion in Water Purification. From paper before Central States Water Works Association. By G. C. Whipple. 1-4 p., Municipal Journal and Engineer, Oct. 5. 10 cts.

Chicago Stock Yards Water Purification Litigation. Communication from G. A. Johnson. 1 1-2 pp., Engineering News, Sept. 29. 15 cts.

Coagulating Works. Operating Results of St. Louis. 1 p., Engineering Record, Sept. 17. 10 cts.

Filter Plant at Helsingfors. By E. A. Gieseler. 1-2 p., Engineering Record, Oct. 1. 10 cts.

Progress on the Toronto Filtration Plant. Illustrated, 4 pp., Contract Record, Sept. 28. 20 cts.

Mechanical Filter Plant at Wilkinsburg. Illustrated, 1 1-2 pp., Engineering Record, Oct. 1. 10 cts.

Cleaning of Filtration Beds. Illustrated, 1 1-2 pp., Fire and Water, Sept. 21. 10 cts.

Experiments on Double Filtration at Albany. Illustrated, 3 1-2 pp., Fire and Water, Sept. 21. 10 cts.

Results of Double Filtration Experiments at Albany. 1 1-2 pp., Engineering Record, Sept. 10. 10 cts.

Operating Results of the Albany Filters. 2-3 p., Engineering Record, Sept. 17. 10 cts.

Maintenance of Water Filters. 1-4 p., Municipal Journal and Engineer, Sept. 21. 10 cts.

Slow Sand Filters at Oakland Lake, Long Island. Illustrated, 2-3 p., Engineering Record, Sept. 24. 10 cts.

Modern Filter Plants. By Landon Pearce. Illustrated, 3 pp., Canadian Engineer, Sept. 22. 15 cts.

Sterilization of Water and Sewage Effluents. Paper before Royal Sanitary Institute. By H. C. H. Shenton. 1 1-2 pp., Surveying and Civil Engineer, September 23. 10 cts.

Hypochlorite Disinfection of Water. 1 p., Canadian Engineer, Sept. 29. 15 cts.

North Toronto Water Supply and Hypochlorite Treatment. By E. A. James. 1 p., Canadian Engineer, Sept. 29. 15 cts.

Practice in the Use of Hypochlorite of Lime. By H. E. Jordan. 1 1-2 pp., Canadian Engineer, Sept. 29. 15 cts.

A Temporary Hypochlorite Plant for Treating the Water-Supply of Milwaukee, Wis. By C. J. Poetsch. Illustrated, 1-3 p., Engineering News, Sept. 29. 15 cts.

Hypochlorite Treatment of Public Water Supplies: Its Adaptability and Limitations. Paper before American Public Health Association. By G. A. Johnson. 3 pp., Engineering Record, Sept. 17. 10 cts.

Ozone. Use of in Water Purification at Nice, France. 1-4 p., Municipal Journal and Engineer, Oct. 5. 10 cts.

Manufacture and Industrial Application of Ozone. Paper before American Institute of Chemical Engineers. By Dr. Oscar Linder. Illustrated, 8 pp., Chemical Engineer, September. 25 cts.

Ultra Violet Rays, Sterilization of Polluted Water by. By K. C. Grant. Illustrated, 3-4 p., Engineering News, Sept. 15. 15 cts.

Quality of Lake Michigan as a Water-Supply for the North Shore District. 1 p., Engineering News, Sept. 29. 15 cts.

Acid Waters of Western Pennsylvania. Paper before Central States Water Works Association. By E. C. Trax. 1 p., Engineering Record, Oct. 1. 10 cts.

Notes on the Color of Waters. Paper before Association of Water Engineers. By Ad. Kemna. 2 pp., Water, Sept. 15. 20 cts.

Pollution of Water in Shallow Wells. 1 p., Canadian Engineer, Sept. 22. 15 cts.

Secondary Water Supplies; Their Dangers and Value. Topical Discussion before New England Water Works Association. 38 pp., Journal, New England Water Works Association, September. \$1.00.

Pump, The Air Lift. 1 1-2 pp., Water, Sept. 15. 20 cts.

Bonus for Correct Firing. Based on amount of carbon dioxide. Encouraging water works firemen in careful use of coal at Wabash. Simple method of sampling flue gas. From paper before Central States Water Works Association. By F. W. McNamee. 2-3 p., Municipal Journal and Engineer, Oct. 5. 10 cts.

Water Waste Detection in Washington. 1-4 p., Municipal Journal and Engineer, Sept. 28. 10 cts.

Waste Water Survey, City of Chicago. Paper before American Water Works Association. By T. C. Phillips. 3 pp., Water and Gas Review, September. 20 cts.

Economy in Water Supply. Paper before Royal Sanitary Institute. By Henry Rofe. 1-2 p., Contract Journal, Sept. 21. 20 cts.

Appraisals, Some Rules for Water Works. Opinion of the U. S. Supreme Court in the Omaha Water Case. 2 1-2 pp., Engineering Record, Sept. 10. 10 cts.

Weir, The Right Angled Triangular. Formula for discharge. By C. N. Cross. 2 pp., Power, Sept. 20. 5 cts.

Discharge Measurements and Formulas for Some Large Overflow Dams. By W. F. Martin. Illustrated, 4 pp., Engineering News, Sept. 29. 15 cts.

Questions of the Day, Some Water Works. 1 p., Engineering News, Sept. 29. 15 cts.

STREET LIGHTING AND POWER PLANTS

Street Lighting, Ornamental. Illustrated, 2 1-2 pp., Electrical World, Sept. 8. 10 cts.

Some Recent Tendencies in Street Lighting. By Louis Bell. 2 pp., Electrical Review, Sept. 10. 10 cts.

Lighting Contract, Long Term. 1-4 p., Municipal Journal and Engineer, Sept. 28. 10 cts.

Light Plant, Pasadena, Electric. 1-4 p., Municipal Journal and Engineer, Sept. 28. 10 cts.

Underground Work.—Paper before International Association of Municipal Electricians. By J. B. Yeakle. 1 1-2 pp., Telegraph and Telephone Age, Sept. 16. 10 cts.

Underground Work. Paper before International Association of Municipal Electricians. By C. R. George. 1 1-2 pp., Telegraph and Telephone Age, Sept. 16. 10 cts.

Improvement in Underground Conduit Construction for Large Transmission System. 1 1-2 pp., Engineering News, Sept. 29. 15 cts.

Code Rules, City and National, and the Relation of the City and Underwriters' Inspectors. Paper before International Association of Municipal Electricians. By R. A. Smith. 1 p., Telegraph and Telephone Age, Sept. 16. 10 cts.

Diversity Factor. Paper before Chicago Section American Institute of Electrical Engineers. By H. B. Gear. Illustrated, 3 pp., Canadian Engineer, Sept. 8. 15 cts.

Commission, History of the Massachusetts Board of Gas and Electric Light. 1 1-4 pp., American Gas Light Journal, Sept. 26. 10 cts.

Gas Calorimetry. Paper before Iowa District Gas Association. By J. B. Klumpp. 2 pp., Progressive Age, Sept. 15. 20 cts.

Liability of Gas Companies for Injuries Resulting from Escape of Gas. By J. E. Brady. 1 p., American Gas Light Journal, Sept. 12. 10 cts. 2 1-2 pp., Sept. 19. 10 cts.

FIRE AND POLICE

Volunteer Fire Departments. Paper before Western Canada Firemen's Association. By W. A. White. 1 p., Western Municipal News, September. 10 cts.

Civil Service in Ohio Fire Departments. Paper before Ohio Fire Chiefs Convention. By F. B. Ramby. 2-3 p., Fire and Water, Sept. 7. 10 cts.

Fire Hose Tests at the Underwriters' Laboratories, Chicago, Ill. Paper before International Association of Fire Engineers. By W. H. Merrill. 1 1-2 pp., Engineering News, Sept. 8. 15 cts.

High-Pressure Service in New York City. Paper before International Association of Fire Engineers. By E. F. Croker. 1 2-3 pp., Fire and Water, Sept. 7. 10 cts.

High-Pressure Fire Service: Its Operation and Efficiency. Paper before International Association of Fire Engineers. By J. E. Buchanan. 1 p., Fire and Water, Sept. 7. 10 cts.

Value of Fire Systems. Paper before International Association of Fire Engineers. By H. F. Magee. 1-3 p., Fire and Water, Sept. 7. 10 cts.

Automobile Fire Engine, Tests of the. Paper before International Association of Fire Engineers. By G. W. Booth. 1 1-4 pp., Fire and Water, Aug. 31. 10 cts.

Practical Use of the Automobile Fire Engine. Paper before International Association of Fire Engineers. By F. G. Reynolds. 2-3 p., Fire and Water, Aug. 31. 10 cts.

Practical Use of the Automobile Fire Engine. By C. S. Allen. Paper before International Association of Fire Engineers. 1 p., Fire and Water, Sept. 7. 10 cts.

Certainty and Economy of Autos. Experience in Lansing, Mich. Cost of maintaining auto apparatus. Large horse power necessary. Paper before National Firemen's Association. By Chief Hugo R. Delfs, Lansing, Mich. Illustrated. 2 pp., Municipal Journal and Engineer, Sept. 14. 10 cts.

Telephone, Relation of the, to the General Organization of Fire Department Service. Paper before International Association of Municipal Electricians. By H. C. Bundy. 3 pp., Telegraph and Telephone Age, Oct. 1. 10 cts.

GOVERNMENT AND FINANCE

Municipal Code for West Virginia. 1-3 p., Municipal Journal and Engineer, Oct. 5. 10 cts.

Civic Organization, Essentials in. By F. A. Miller. 4 pp., American City, September. 10 cts.

Municipal Legislation by By-Law. Paper before British Columbia Union of Municipalities. 4 pp., Canadian Municipal Journal, September. 15 cts.

Research Bureau, Cincinnati Municipal. 1-4 p., Municipal Journal and Engineer, Sept. 21. 10 cts.

Eminent Domain for Park Commissions. Appeal to the Metropolitan Park Commission of Providence. Illustrated. 3-4 p., Municipal Journal and Engineer, Sept. 14. 10 cts.

Accounting, Side-Lights on Municipal. By W. C. Dolge. 3 pp., Pacific Municipalities, August. 20 cts.

Bonds, Municipal. Arguments against long term and in favor of serial bonds. Popular authorization desirable. Protection against forgery. 2-3 p., Municipal Journal and Engineer, Sept. 28. 10 cts.

Rate Relief, Profits and. By R. B. Walker. 1 p., Municipal Journal, Sept. 23. 15 cts.

STREET CLEANING AND REFUSE DISPOSAL

Street Cleaning and Watering in Twenty Great Towns of the United Kingdom. Paper before Brussels International Road Congress. By T. H. Yabbicom. 11-3 pp., Engineering-Contracting, Sept. 7. 10 cts.

Street Cleaning in Washington. 1-4 p., Municipal Journal and Engineer, Sept. 28. 10 cts.

Cleaning and Watering Streets in the Great Towns of England, Scotland and Ireland. Paper before Brussels International Road Congress. By T. H. Yabbicom. 2 1-2 pp., Surveying and Civil Engineer, Sept. 16. 20 cts. 2 pp., Surveying and Civil Engineer, Sept. 23. 20 cts.

Street Cleaning in La Crosse. By Geo. Falk. 1-3 p., Municipal Journal and Engineer, Sept. 28. 10 cts.

Collection and Disposal of House and Trade Refuse. Paper before Royal Sanitary Institute. By H. T. Lyon. 11-2 pp., Surveyor, Sept. 23. 20 cts.

Collection and Disposal of House and Trade Refuse. Paper before Conference of Engineers and Surveyors. By H. T. Lyon. 2-3 p., Contract Journal, Sept. 14. 20 cts.

1 p., Surveying and Civil Engineer, Sept. 9. 20 cts.

Methods of Garbage Collection and Disposal in the Canal Zone, Panama and

Colon, from Canal Record. 2-3 p., Engineering-Contracting, Sept. 28. 10 cts.

Garbage Collection and Disposal in Minneapolis. 1 p., Municipal Engineering, October. 25 cts.

Modern Practice in Garbage Disposal. Paper before American Public Health Association. By Rudolph Hering. 2 pp., Engineering Record, Sept. 24. 10 cts. 1-2 p., Municipal Journal and Engineer, Oct. 5. 10 cts.

Wagons, Auto Garbage. 1-3 p., Municipal Journal and Engineer, Sept. 21. 10 cts.

Incineration of Refuse in the City of Westmount, Benefits Derived from the. By Dr. J. A. Hutchinson. 2 pp., Engineering-Contracting, Sept. 28. 10 cts.

Utilizing Municipal Waste, Some Profitable Methods of. Paper before Royal Institute of Public Health. By L. St. G. Wilkinson. 1 1-2 pp., Surveyor, Sept. 2. 20 cts.

MISCELLANEOUS

Municipal Tramways, Present and Future. By C. J. Spencer. 2 pp., Municipal Journal, Sept. 23. 15 cts.

Subway and Elevated System, New York City Tri-Borough. Illustrated. 1 p., Engineering Record, Sept. 10. 10 cts.

How the Capacity of the New York Subway Power Plant Was Doubled. Steam Turbine used with high-pressure engines. 1-2 p., Scientific American, Sept. 24. 10 cts.

Progressive Subsidence near Main St., Cambridge Mass., and the Design of the Main St. Subway. By F. H. Carter. Illustrated. 3 pp., Engineering News, Sept. 8. 15 cts.

Travel in Great Cities. 1-4 p., Municipal Journal and Engineer, Oct. 5. 10 cts.

Locomotives for City Line, Electric Freight. 1-2 p., Engineering News, Sept. 29. 15 cts.

Valuation of the Track of the Detroit Street Railway System. By E. T. Barcroft. 1 p., Engineering News, Sept. 8. 15 cts.

Methods of Conducting and Valuation of the Physical Properties of the Chicago Consolidated Traction Company, with Summaries of Costs. By P. J. Kealy. 2 pp., Engineering-Contracting, Sept. 28. 10 cts.

Concrete Surfaces, Exterior Treatment of. Committee Report of the National Association of Cement Users. 2 1-2 pp., Engineering News, Sept. 15. 15 cts. 3 pp., Engineering-Contracting, Sept. 21. 10 cts. 5 pp., Cement World, September. 15 cts. 3 1-2 pp., Engineering Record, Sept. 24. 10 cts.

Cracks in Concrete Slabs, Formation of, and Their Prevention. 3 pp., Cement, September. 20 cts.

Sea Wall, Separately-Molded Sections for a Concrete. Illustrated. 2-3 p., Engineering News, Sept. 29. 15 cts.

Concrete Aggregate, Testing, As important as testing cement. Experience in Syracuse. Determinations made. Ingenious shaker and moist closet. 1-2 p., Municipal Journal and Engineer, Sept. 14. 10 cts.

Protection of Wood by Crystalline Pigments. From Journal of the Franklin Institute. By H. A. Gardner. 1 p., Canadian Engineer, Sept. 29. 15 cts.

Bridges and Other Structures, Influence of Speed and Weight of Vehicles on. By W. W. Beaumont. 1 p., Surveying and Civil Engineer, Sept. 23. 20 cts.

Highway Bridge Construction. From Bulletin of Missouri Highway Department. By F. J. Kersting. 1 1-2 pp., Contractor, Sept. 15. 20 cts.

Construction Methods of the Rocky River Bridge, Cleveland. Illustrated. 6 pp., Engineering-Contracting, Sept. 14. 10 cts.

Construction of Reinforced Concrete Arch Bridge. Illustrated. 2 1-2 pp., Engineering-Contracting, Sept. 7. 10 cts.

Methods of Bridge Construction at Cedar Rapids. Illustrated. 6 pp., Cement World, September. 15 cts.

Three-Hinged Arch Vaulting over the Saint Martin Canal, Paris. Illustrated. 1 p., Engineering Record, Sept. 10. 10 cts.

Standard I-Beam Railroad Bridges over City Streets. Illustrated. 1-2 pp., Engineering Record, Sept. 17. 10 cts.

Phalen Park Bridge, St. Paul. By James Cowen. Illustrated. 2 pp., Municipal Engineering, October. 25 cts.

City Planning Exhibition in Berlin. By G. B. Ford. Illustrated. 5 pp., American City, September. 10 cts.

Planning of Undeveloped City Areas. Paper before Conference on City Planning. By N. P. Lewis. 4 pp., American City, September. 10 cts.

City Streets. Paper before National Conference on City Planning. By John Nolan. 1 p., American City, September. 10 cts.

Town Planning Procedure Regulations. Paper before Royal Sanitary Institute. By

F. E. Freemantie. 1 p., Surveyor, Sept. 9. 1 1-2 pp., Surveyor, Sept. 16. 20 cts.

Modern City Planning. By F. Brinkman. Illustrated. 5 pp., Municipal Engineering, October. 25 cts.

Trees, Interest in City. 1-3 p., Municipal Journal and Engineer, Sept. 21. 10 cts.

City Tree Planting. Report to Detroit City Plan and Improvement Commission. By E. G. Phillips. Illustrated. 4 1-2 pp., American City, September. 10 cts.

Baths, The Lister Public, Featherstone. Illustrated. 1 p., Municipal Journal, Sept. 2. 15 cts.

Comfort Station, Riverside Shelter and. Architectural perfection required by location. Monolithic granite columns. Interior finish. Method of water proofing. Heating, lighting and ventilation. Illustrated. 4 1-2 pp., Municipal Journal and Engineer, Sept. 28. 10 cts.

Lodging House, Women's. Illustrated. 2 1-2 pp., Municipal Journal, Sept. 9. 15 cts.

Theaters and Public Places, Ordinance of the City of Paris regarding Heating, Ventilation and Hygiene. 2-3 p., La Technique Sanitaire, September. 50 cts.

Play, Sunday. Paper before Playground Association of America. By Jos. Lee. 11 pp., The Playground, October. 25 cts.

The Dance Problem. Paper before Playground Association of America. By Mrs. C. H. Israels. Illustrated. 10 pp., The Playground, October. 25 cts.

Moving Pictures—Their Function and Proper Regulation. Paper before Playground Association of America. By John Collier. 7 pp., The Playground, October. 25 cts.

Uplift Work in Erfurt. 1-4 p., Municipal Journal and Engineer, Oct. 5. 10 cts.

Smoke Abatement. New Smoke Law in Massachusetts. Small plants the greatest advantage. Loss in unconsumed gases. Ringlemann smoke chart. Illustrated. 1 p., Municipal Journal and Engineer, Sept. 14. 10 cts.

Contamination of City Air. Paper before Boston Society of Civil Engineers. By Dr. G. A. Soper. 26 pp., Journal of Association of Engineering Societies, August. 30 cts.

Furnace, A City Set on a. Account of the mine fire under Carbondale, Pa. By H. E. Robbins. 3 pp., Outlook, Oct. 1. 5 cts.

Municipal Improvements Convention. 1-3 p., Municipal Journal and Engineer, Sept. 28. 10 cts.

Galveston's Reconstruction. 1-4 p., Municipal Journal and Engineer, Sept. 28. 10 cts.

What Wilkes-Barre Has Accomplished. By R. W. Ferrell. Illustrated. 8 pp., American City, September. 10 cts.

Municipal Sheffield. Description of some of its utilities. By R. M. Prescott. Illustrated. 2 pp., Municipal Journal, Sept. 23. 15 cts.

Telephone Service, Cost of. Discussion of system of rates recommended for Boston and its suburbs. Telephone company under capitalized. Zone system. 1 p., Municipal Journal and Engineer, Oct. 5. 10 cts.

Weights and Measures in New York City. Testing. Illustrated. 1 p., Scientific American, Sept. 24. 10 cts.

Dogs, Licensing and Regulating. Power to enact ordinances. Dog tax really a license. By John Simpson. 3-4 p., Municipal Journal and Engineer, Oct. 5. 10 cts.

Engineering Instruction. The co-operative system. Paper before Society for the Promotion of Engineering Education. By H. Snyder. 1 2-3 pp., Surveying and Civil Engineer, Sept. 2. 20 cts.

Licenses for Engineers in Colorado. 2-3 p., Engineering Record, Oct. 1. 10 cts.

Conversion Tables. Tabular statement of data concerning weights per linear and square unit. Rates of motion and of work. Weight, volume, area and length. English and metric units. Acreage co-ordinates. 2 1-2 pp., Municipal Journal and Engineer, Oct. 5. 10 cts.

Motion Study, Economic Value of, in Standardizing the Trades. By F. B. Gilbreth. Illustrated. 3 pp., Industrial Engineering, September. 20 cts.

Cost: The Fundamental of all Construction. By D. J. Hauer. 2 pp., Contract Record, Sept. 28. 20 cts.

Notes of Cost Data and Cost Analysis. By D. J. Hauer. 2 pp., Contractor, Sept. 15. 20 cts.

Blasting, Precautions for Maximum Safety and Effectiveness in. 2 pp., Engineering News, Sept. 22. 15 cts.

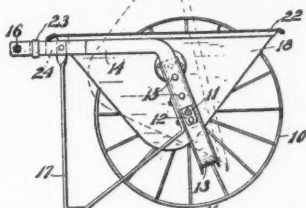
Crushers, Comparison of Gyratory and Jaw. By H. L. Wollenberg. Illustrated. 2 1-2 pp., Engineering-Contracting, Sept. 21. 10 cts.

Ground Water and Building Foundations. 1-4 p., Municipal Journal and Engineer, Sept. 14. 10 cts.

PATENT CLAIMS

970,457. CONCRETE-CART. Charles A. Baker, Milwaukee, Wis., assignor to Sterling Wheelbarrow Company, Milwaukee, Wis., a Corporation of Wisconsin. Serial No. 458,931.

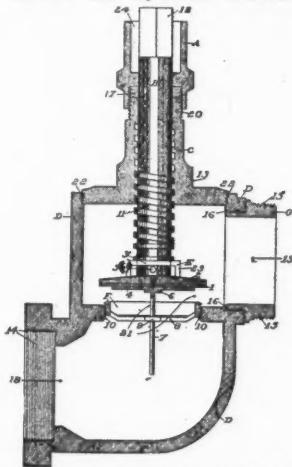
A cart, comprising a U-shaped frame, metal bars secured to the ends of the U-shaped frame with outwardly extending axles at their lower ends and inwardly extending headed studs at their upper ends, wheels mounted on the axles, a handle con-



nected with the U-shaped frame, and a tray having sockets pivotally mounted on the headed studs at points in a vertical plane through the center of gravity of the tray and above the center of gravity of the cart, whereby the tray may maintain its level position in different elevations of the handle.

970,707. SPRINKLING-VALVE FOR HYDRANTS. John B. Heim, Madison, Wis. Serial No. 311,426.

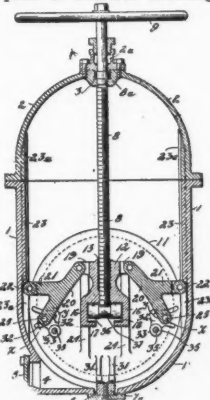
In a sprinkling-valve, the combination of a hydrant attachment having means for attaching to the hydrant; a hose connection thereon, offset against a valve opening within the hydrant attachment; a valve seat and valve within the hydrant attachment; a



pliable washer to form the contact between the valve and the valve seat; means for controlling the valve from outside the hydrant attachment and for increasing the pressure on the valve without revolving the valve on the valve seat; a cap on the hydrant attachment larger in diameter than either the valve or the valve seat, with a counter-sunk portion thereon to effectually encompass the means for closing the valve when in position for closing the valve, all substantially as set forth.

970,764. HIGH-PRESSURE GATE-VALVE. Thomas W. Stone, Fort Wayne, Ind. Serial No. 410,849.

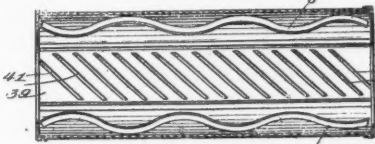
The combination with a pair of valve disks, of a pair of central locking cams hav-



ing eccentric faces arranged to bear thereon and to meet centrally at their eccentric faces, a valve stem and means connecting therewith for operating said cams, substantially as described.

970,584. MACHINE FOR CLEANING SAND AND GRAVEL. Charles J. Welty, North Lima, O. Serial No. 557,055.

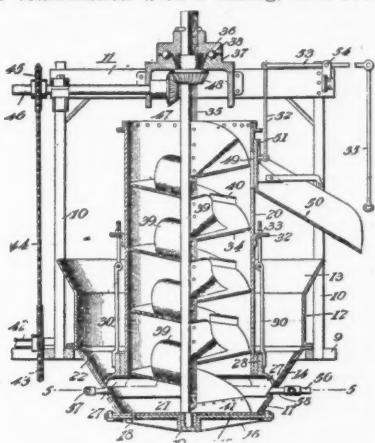
In a machine of the class described, the combination of a shaft and means for rotating the same; a hollow cylinder mounted upon said shaft for rotation therewith; said cylinder having an open discharge end; means arranged within said cylinder for carrying part-way around with the latter material introduced therinto and for advancing such material toward said dis-



charge end; and a longitudinally arranged trough located within said cylinder and suspended from and rotating with said shaft for periodically receiving material falling thereinto from said carrying means, said trough being provided with means for imparting a side-wise movement to said material at such time.

970,870. CONCRETE-MIXING MACHINE. Hayes J. J. Alexander, Youngstown, Ohio, assignor of one-half to Charles L. Berry, Youngstown, Ohio. Serial No. 544,919.

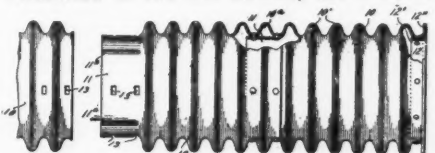
In a machine of the character set forth the combination with a casing, of a rotary



mixer and elevator operating therein, a plurality of material holding magazines having discharge mouths delivering to the lower portion of the casing and means for individually controlling the mouths.

971,558. METAL CULVERT. Charles M. Porter, Fargo, N. D. Serial No. 535,547.

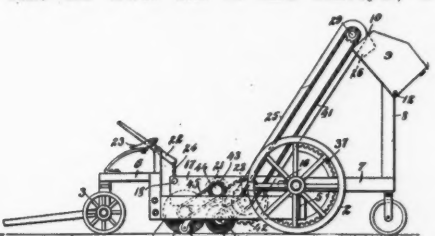
The herein-described sheet metal culvert comprising a plurality of tubular corrugated sections, a flanged reinforcing collar connected to the end section, the ends of



adjacent sections being telescoped, the inner end being cylindrical where received within the corrugated end of the adjoining section, and fastening devices passed through said adjacent ends, substantially as set forth.

971,661. STREET-SWEEPER. Hiram Henry Brooks, Nashville, Tenn. Serial No. 569,317.

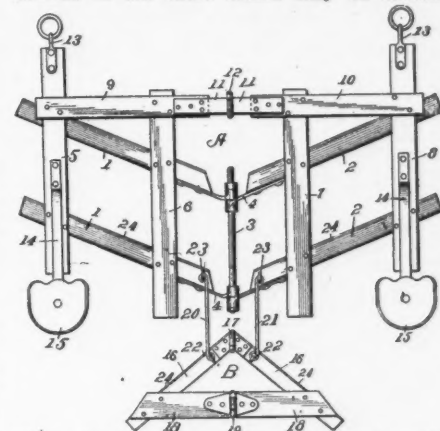
In a street sweeper a main frame mounted upon wheels, a conveyor, an auxiliary frame, means for raising and lowering said auxiliary frame, a member adjacent the lower end of said conveyor, a



pair of oppositely rotating brushes for raising and depositing the dirt on said member and a brush for sweeping the dirt from said member onto said conveyor, substantially as described.

970,966. ROAD SCRAPER. George W. Spicer, Peru, Ind., assignor to George N. Clymer, Rochester, Ind. Serial No. 494,675.

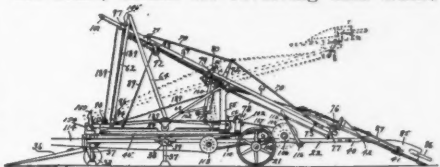
In a scraping device a main frame, including pairs of beams, a cross piece connecting each pair of beams, a hinge connection between said cross pieces, front and rear pairs of scraper bars secured to said beams, the pairs of scraper bars diverging forwardly, means for hingedly connecting the pairs of scraper bars together, thereby forming the main frame into two sections, whereby one section of the main frame may be folded



upon the other section thereof and said other section serve as a runner to transport the device, a leveling frame including rearwardly diverging scraper bars hingedly connected together, and link connections between the rear scraper bars of the main frame and the scraper bars of the leveling frame, the leveling frame being smaller than the main frame and when folded adapted to be disposed between the folded sections of the main frame without disconnecting said link connections and thereby transport the leveling frame upon said runner section.

971,540. EXCAVATING AND LOADING MACHINE. Leroy Kercher, Roann, Ind. Serial No. 503,382.

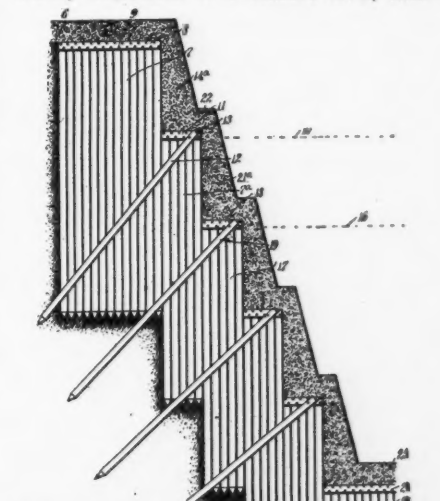
A machine of the kind described including a platform, a tilting frame with which said platform is connected for elevating the same, means for revolving said frame



and platform, and means for drawing a scoop over the surface of the ground for excavating, pulling it up on said platform, tilting the frame and actuating said revolving means.

971,964. METHOD OF BUILDING DOCKS. Torje Nielsen Berge, Hoboken, N. J. Serial No. 566,966.

The method herein described of building docks, which consists in beginning at the surface of the earth, excavating downwardly therefrom to a definite level, com-



pleting a portion of a wall from the upper level of the earth to the level thus reached, next again excavating so as to reach a lower level, and next extending the wall downwardly to the level last reached, these steps being repeated until the wall reaches a proper depth.

THE WEEK'S CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage, Water Supply and Public Lighting—Fire Equipment and Supplies—Bridges and Concrete Work—Sanitation, Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we cannot guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also corrections of any errors discovered.

BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
STREET IMPROVEMENTS				
Nebraska	Lincoln	Oct. 14	Paving two streets.	R. C. Ozman, City Clerk.
Ohio	Toledo	Oct. 14, 10 a.m.	Repairing stone road No. 29.	C. J. Sanzenbacher, County Auditor.
Wisconsin	La Crosse	Oct. 14, 2 p.m.	Paving Division street with brick.	J. T. Day, Pres. Board of Pub. Wks.
Wisconsin	Kenosha	Oct. 14, 2 p.m.	Bldg. 3500 lin. ft. concrete curb on Ashland av. to city line.	R. H. Moth, City Engineer.
Missouri	Eldon	Oct. 15, 8 p.m.	Constructing cement sidewalk.	R. S. Harvey, Mayor.
South Dakota	Aberdeen	Oct. 15	Constructing sidewalks.	F. W. Raymond, City Auditor.
Indiana	Franklin	Oct. 15, 10 a.m.	Bldg. gravel road on the Johnson-Shelby County line.	W. B. Jennings, County Auditor.
Indiana	Princeton	Oct. 15, 10 a.m.	Bldg. 4 gravel roads in Wabash twp.	Wm. T. Roberts, County Auditor.
Oklahoma	Fort Sill	Oct. 15, 10 a.m.	Grading roads and constructing concrete walks, new Artillery Pt.	Capt. David L. Stone, Constr. Q. M.
Illinois	Peoria	Oct. 15	Resurfacing Perry ave. with asphalt.	Geo. E. Simmons, Pres. B. I. Loc. Imp.
New York	North Tarrytown	Oct. 15, 10 a.m.	Improving two highways.	E. F. Hennessy, Town Clerk.
Ohio	Lisbon	Oct. 15	Grading park roads.	County Commissioners.
Indiana	Lafayette	Oct. 15	Building George W. Brown gravel road.	John P. Foresman Co. Auditor.
New York	New York	Oct. 15, 11 a.m.	Asphalt block and bit. Macadam pav. on concrete, flagging, etc.	C. C. Miller, Pres. Bronx Borough.
New York	New York	Oct. 17, 2 p.m.	Sheet asphalt repaving on concrete, regulating streets, etc.	George McAneny, Pres. Manh. Boor.
Pennsylvania	Chester	Oct. 17, 7:30 p.m.	Paving portions of 29 streets.	S. McClure, Chm. St. Com.
Ohio	Fostoria	Oct. 17, noon	Paving six streets with brick or bitulithic, 21,000 yds.	E. C. Lease, Dir. Pub. Service.
New Jersey	Elizabeth	Oct. 17, 8:30 p.m.	Trap block paving, 2 jobs: 4956 and 3260 sq. yds. on sand base, 300 and 300 lin. ft. new curb, reset 2037 and 1320 lin. ft., sewer, etc.	N. K. Thompson, Street Com.
Washington	Pasco	Oct. 18	Bldg. 96,800 sq. ft. conc. sidewalks on Lewis, 4th and Tacoma sts.	L. S. Conrad, City Clerk.
New York	Bronxville	Oct. 18	Grading and paving Avon and Governor's roads.	Frank Dinsmore, Village Clerk.
New Jersey	Camden	Oct. 18, 8 p.m.	Paving Atlantic ave. with sheet asphalt.	Edw. Francis, Chm. Com. on Sts.
Wisconsin	Janesville	Oct. 18, 2 p.m.	Improving three streets.	W. F. Carle, Chm. St. Assessm. Com.
Indiana	Shelbyville	Oct. 18, 10 a.m.	Constructing concrete culverts for County.	G. B. Huntington, County Auditor.
Arizona	Douglas	Oct. 18, 2 p.m.	Building Territorial highway between Douglas and Lowell.	R. A. Craig, Bd. Control, Phoenix.
New York	Brooklyn	Oct. 19, 11 a.m.	Regulating and repaving with asphalt on concrete on several sts.	Alfred E. Steers, Boro. President.
California	Oakland	Oct. 19, 10 a.m.	Improving Twelfth street.	J. W. Nelson, Secy. Bd. Pub. Wrks.
Ohio	Toledo	Oct. 19, 10 a.m.	Macadamizing county road.	C. J. Sanzenbacher, County Aud.
Wisconsin	Racine	Oct. 21, 10 a.m.	Brick paving, 1730 sq. yds. Sarco mineral rubber, 2324 sq. yds., comb. curb and gutter, 2420 lin. ft., 3 streets.	P. H. Connolly, Chm., Bd. Pub. Wks.
Ohio	Cincinnati	Oct. 21, noon	Repairing south fork of Taylor's Creek road and Dog Trot road.	Stanley Struble, Chm. Co. Comrs.
Pennsylvania	Pittsburg	Oct. 27, noon	Imp. Ardmore and Guy's Run road, distance 3.9 mi.	R. J. Cunningham, Co. Controller.
Washington	Spokane	Oct. 31, 2 p.m.	Improving three streets.	J. C. Argall, Sec'y Bd. Pub. Wks.
New York	Fort Niagara	Oct. 31, 11:15 a.m.	Building concrete walks, macadamized and clay roads at Fort.	Lieut. E. H. Wagner, U. S. Army.
Florida	Jacksonville	Nov. 1, 9:30 a.m.	Grading, curbing, paving 20 miles hard-surfaced County roads.	Gail L. Barnard, County Engineer.
SEWERAGE				
Ontario	Oshawa	Oct. 14	Bldg. main trunk sanitary sewer, 1,860 ft. 24-in., 1,800 ft. 20-in.	Frank Chappell, Town Engineer.
Ohio	Columbus	Oct. 14	Building sewer in Starling st. and Rush alley.	H. L. Holton, Dir. Pub. Service.
Ohio	Cleveland	Oct. 15	Laying sewer pipe in N. Woodland road.	J. F. Goldenbogen, Clk. Bd. Co. Com.
Florida	Clearwater	Oct. 15, noon	Building sewer system: 2½ mi. 8 to 15-in. pipe, flush tanks, etc.	Thos. J. Sheridan, Town Clerk.
New York	New York	Oct. 15	Bldg. 13,440 ft. 24 to 12-in. pipe sewer, 136 ft. 3½ ft. and 87 ft. 3-ft. concrete sewer; 144 manholes, 7,000 lbs. steel bars.	C. C. Miller, Pres. Bronx Boro.
Ohio	Postoria	Oct. 17, noon	Construct. 2,350 lin. ft. 12-in. and 1,460 lin. ft. 15-in. pipe sewers.	J. H. Morton, City Auditor.
Oklahoma	Muskogee	Oct. 17, 5 p.m.	Bldg. storm sewers; 2,000 cu. yds. brick or concrete masonry in 3 to 5-ft. sewers; 20,000 cu. yds. excav.; 16,000 ft. 12 to 33-in. tile pipe.	Charles Wheeler, Jr., City Clerk.
Kansas	Lawrence	Oct. 17, 5 p.m.	Constructing 2850 ft. 12-inch, 3850 ft. 10-inch, pipe sewer, etc.	F. D. Brooks, City Clerk.
New Jersey	Perth Amboy	Oct. 17, 8:30 p.m.	Building 12 and 15-in. sewer in two streets.	George M. Adair, Street Comr.
Ohio	Toledo	Oct. 17, noon	Building sewer in White st., and two alleys.	Fred Shane, Secy., Bd. Pub. Service.
New York	Bronxville	Oct. 18	Bldg. sewer in Avon road; Rogers & Latimer, 6-7 E. 42d street, N. Y. City.	Frank Dinsmore, Village Clerk.
Washington	Pasco	Oct. 18	Laying 3,320 ft. 24-in., 8,720 ft. 18-in., 2,690 ft. 10-in., 28,970 ft. 8-in. sewer pipe, 68 manholes, 20 flush tanks, etc.	L. S. Conrad, City Clerk.
Ontario	Ottawa	Oct. 18	Centrif. pumps and motors for sewage pump house, Trans. Ry.	P. E. Ryan, Sec'y. Transcont. Ry.
New York	Brooklyn	Oct. 19	Bldg. sewers in Gravesend ave., 2 outlet sewers, cost, \$13,270.	A. E. Steers, Boro. President.
Florida	Sarasota	Oct. 20	Laying about three miles of sewer and water pipes all in same trench; see water supply.	J. W. Philip, City Engineer.
Illinois	Lewistown	Oct. 20, noon	Constructing about 6,000 ft. 8 to 15-in. pipe sewers and concrete septic tank.	H. J. Efnor, Clk. Bd. Loc. Imp.
Kentucky	Louisville	Oct. 21	Constructing section B, Frankfort ave. sewer, Contract 74.	P. L. Atherton, Chm. Comrs. Sew.
New York	Westfield	Oct. 21	Sewers, 57,518 ft. 8-24-in. pipe, 143 manholes, 23 flush tanks, sewage disposal plant, C. C. Hill, Northeast, Pa., Engineer.	J. A. Riley, Village Clerk.
Illinois	Clinton	Oct. 22, 1 p.m.	Bldg. drainage ditches, 5 retaining walls, Nixon Drain. Dist.	Wm. H. Hendrix, Chm. Drain. Bd.
Iowa	Tama	Oct. 22	Furn. sewage pump or lift, f.o.b. Tama; C. A. Baughman, C. E.	Lee I. Carson, City Clerk.
Ohio	Bellefontaine	Oct. 25	Building sanitary sewers, cost \$91,000.	Clair A. Inskeep, City Engr.
Pennsylvania	Beaver Falls	Oct. 25, 8 p.m.	Surveys and plans for sewer system and disposal plant.	W. F. Rayle, Secy., Town Council.
Minnesota	St. Cloud	Oct. 31	Bldg. addition to sewer outlet on Fourth street.	E. C. Scott, City Clerk.
Indiana	Shelbyville	Nov. 1	Completing sanitary sewer system.	L. E. Webb, City Clerk.
Georgia	Atlanta	Nov. 1, noon	Building Prostor Creek sewage disposal plant near city, \$5000 check.	R. M. Clayton, City Engineer.
Georgia	Eastman	Nov. 1	Bldg. 9 miles 8 to 12-in. t. c. pipe sewers, mh., flush tanks, etc.	J. D. Herrman, City Clerk.
Missouri	Neosho	Nov. 1, 8 p.m.	Building sewer system in District No. 1.	John M. Sherwood, City Engineer.
Minnesota	Canby	Nov. 3, 8 p.m.	Elec. equipment for operating sewage pump, including 15 kw. a. c. generator, switchboard, 7.5 h. p. motor, wire, etc.	John S. Dodds, City Engineer.
WATER SUPPLY				
Minnesota	Minneapolis	Oct. 14, 7:30 p.m.	Furn. 2 elec-driven centrifugal pumps, 20,000,000-gals. per day, head 247 ft.; motor, 1300 h.p.; Edward P. Burch, Con. Engr.	Henry N. Knott, City Clerk.
Ohio	Canton	Oct. 15	Constructing various improvements, cost \$125,000.	R. F. Harbert, Dir. Pub. Service.
Arkansas	Blytheville	Oct. 15	Proposition for water works.	T. W. Davis, Mayor.
Washington	Oroville	Oct. 17	Bldg. water works system, entire or in part: well, pumping machinery, reservoir and pipe line.	E. S. Taylor, Town Clerk.
Kentucky	Louisville	Oct. 17, noon	Furnishing six four-wheeled catch basin carts.	City Buyer.
Kansas	Mulvane	Oct. 17	Bldg. water works; J. S. Worley Co. Reliance Bldg., K. C., Mo.	City Clerk.
Pennsylvania	Monongahela	Oct. 18	Bldg. deep well 2,500 ft. deep on County Home farm.	John H. Moffitt, County Comptrolr.
Pennsylvania	Harrisburg	Oct. 18, 4 p.m.	Furnishing and install. gas and electric power pump, machinery, etc.	John A. Affleck, Pres. Wtr. & Lt. Bd.
California	Los Angeles	Oct. 18, 2 p.m.	Furnishing c. i. pipe, I beams, grillage bars, etc.	U. S. Reclamation Service.
Pennsylvania	Chambersburg	Oct. 19, 8 p.m.	Laying and con. 11 miles 6 to 16-in. mains, caulk lead joints.	W. A. Laird, Jr., City Engineer.

BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
WATER SUPPLY (Continued)				
Ohio.....	Niles.....	Oct. 19, noon.....	Furn. 5,000 ft. 8-in., 26,000 ft., 6-in. c. i. pipe, 200 ft. head; thirty-two 6-in., and five 8-in. water gates, 32 fire hydrants, 4-in. 2 hose discharge, 5 ft. under surface; 1,600 lbs. specials, 10 tons lead 800 lbs. hemp, 37 valve boxes, f.o.b., Niles....	Clare Caldwell, Dir. Pub. Serv.
Florida.....	Sarasota.....	Oct. 20.....	Bldg. 75,000 gal. tank and tower not less than 100 ft. tall; laying between two and three miles of sewer and water pipes all in same trench; also furn. about twenty double fire hydrants.	John W. Philip, City Engineer.
Ohio.....	Athens.....	Oct. 22, noon.....	Furnishing and install. two 150 h.p. boilers, 22x80 ft. standpipe, system of steam and water piping, also hydrotherapeutic plant, State Hospital.....	Osborne Eng. Co., Arcade, Cleveland. E. V. Westfall, City Clerk. N. J. Brewer, Village Clerk.
Nebraska.....	University Place.	Oct. 22.....	Sinking a 10-in. well 160 ft. deep.....	H. H. Canfield, Village Clerk.
Ohio.....	Euclid.....	Oct. 24, noon.....	Constructing 12 and 16-inch water mains.....	P. W. Guiney, Constr. Q. M.
Ohio.....	Cleveland Hghts.	Oct. 25, noon.....	Building 6-in. water main in Noble road, F. A. Pease Eng. Co., Cleveland.....	John D. Davidson, Sec'y. Water Bd. H. L. Swatts, City Clerk. X. A. Kramer, C.E., Magnolia. H. M. Talbott, City Engineer.
Wisconsin.....	Walworth.....	Oct. 27.....	Bldg. water works, plans by Geo. Cadogan Morgan, Chic. Ill....	
Texas.....	Ft. Sam Houston	Oct. 29, 11 a.m.....	Bldg. 300,000-gal. steel tank and trestle and main extensions....	
New York.....	Binghamton.....	Nov. 1, 10 a.m.....	Bldg. 5,000,000-gal. distributing reservoir, inclu. 2,900 cu. yds. concrete, plain and rein.; 50,000 cu. yds. excav.; \$20,000 bond.	
Florida.....	Lakeland.....	Nov. 1.....	Improvements to water and light plant, estimated cost, \$40,000	
Mississippi.....	Osyka.....	Nov. 1.....	Building \$20,000 water works and electric light plant.....	
Kentucky.....	Owensboro.....	Nov. 1.....	Constructing water-softening plant at city water works.....	
BRIDGES				
Indiana.....	Noblesville.....	Oct. 14, 2 p.m.....	Building bridge over Fall Creek bet. Hamilton and Marion Cos.	Geo. Griffin County Auditor.
Ohio.....	Cincinnati.....	Oct. 14, noon.....	Constructing concrete bridge.....	Fred Dreihls County Clerk.
Connecticut.....	New Hartford.....	Oct. 14.....	Bldg. two bridges 18- and 24-ft. roadways, 24 and 50 ft. long....	Wallace Case, First Selectman.
Kansas.....	Ottawa.....	Oct. 15.....	Constructing piers for Ft. Scott crossing approach.....	J. F. Berlin, Township Trustee.
Missouri.....	St. Joseph.....	Oct. 15, 11 a.m.....	Plans for viaduct or subway under railroad tracks, So. Sixth st....	Alfred Meier, Pres. Bd. Pub. Wks.
Missouri.....	Richmond.....	Oct. 15, 2 p.m.....	Constructing two concrete bridges for County.....	W. H. Kirkham, County Hwy. Engr.
Nebraska.....	Butte.....	Oct. 18.....	Building 30-ft. and 30-ft. combination bridges, also 40-ft. bridge	S. A. Richardson, County Clerk.
Washington.....	Seattle.....	Oct. 19.....	Bldg. 75 ft. steel span, plank floors, sidewalk, pile piers, etc....	H. L. Bowlby, Olympia, Sec'y St. H. B.
Pennsylvania.....	Wilkes-Barre.....	Oct. 19, noon.....	Constructing reinforced viaduct.....	J. M. Norris, County Controller.
Pennsylvania.....	York.....	Oct. 20, 10 a.m.....	Constructing two concrete bridges, 30-foot span.....	W. H. Strine, Clerk County Comrs.
Ohio.....	Upper Sandusky.....	Oct. 21, noon.....	Building two sandstone abutments for the Mexico bridge.....	Peter Frank, Jr., County Auditor.
Indiana.....	Shelbyville.....	Oct. 22, 10 a.m.....	Building steel truss bridge with concrete floor.....	G. B. Huntington, County Auditor.
California.....	Madera.....	Oct. 22, 10 a.m.....	Bldg. trestle bridge, 77 ft. long, 16 ft. wide, in clear over river.	W. R. Curtin, Clk., Bd. Supervisors.
California.....	Los Angeles.....	Oct. 24.....	Building concrete arched bridge, approaches, roadway and fence over Arroyo Seco, at Pasadena ave. extension, length, 1400 ft. with Y at one end, average width at top, 50 ft., inc. 16-ft. railroad right-of-way; concrete bridge will be 165 ft. long, 75 ft. wide with 2 arches each with 60-ft. span and 34 ft. clear height, cost, \$128,000.....	C. G. Keyes, County Clerk. John F. Goldenbogen, Clk. Co Comrs.
Ohio.....	Cleveland.....	Oct. 26, 11 a.m.....	Building concrete bridge, F. R. Lander, County Surveyor.....	Will B. Jones, County Auditor. Board of Supervisors.
Ohio.....	Youngstown.....	Oct. 31, 11 a.m.....	Bldg. abutment and pedestals for bridges over Power Run Youngstown, twp.; also for bldg. stone arch over Dry Run, Gladstone st., city.....	A. L. Slack, Secy., Police Jury.
California.....	Ukiah.....	Oct. 31.....	Constructing bridge across Russian Gulch.....	
Louisiana.....	Tallulah.....	Nov. 2.....	Bldg. 2 bridges 116 and 168 ft. long, 14 ft. roadway, with plans.	
LIGHTING AND POWER				
Washington.....	Walla Walla.....	Oct. 15, 2 p.m.....	Lighting 186 or more arc lights with electricity; three and five year periods.....	T. D. S. Hart, City Clerk.
New Jersey.....	Jersey City.....	Oct. 17, 2 p.m.....	Furnishing gas and oil street lighting to Nov. 30, 1911.....	George T. Bouton, Clk. St. & Wtr. Bd.
New Jersey.....	Allentown.....	Oct. 19, 8 p.m.....	Building municipal electric lighting plant; W. W. Young, C. E.	A. Robinson, Mayor.
Ohio.....	Jackson.....	Oct. 20.....	Furn. material and enlarging and improving mun. elec. lt. plants	W. A. Dallas, Clk. Trus. Pub. Affrs.
Virginia.....	Natl. Sold. Home.	Oct. 25.....	Furnishing and installing pump in hospital, steam piping from power house.....	John T. Hume, Treas. Sold. Home.
Florida.....	Lakeland.....	Nov. 1.....	Improvements to light and water plant; cost \$40,000.....	H. L. Swatts, City Clerk.
Mississippi.....	Osyka.....	Nov. 1.....	Building \$20,000 electric light plant and water works.....	X. A. Kramer, C.E., Magnolia.
California.....	Bridgeport.....	Nov. 14.....	Franchise 30 years for transmission line.....	Geo. deLury, Co. Clerk.
Montana.....	Missoula.....	Nov. 20.....	Constr. \$445,000 power plant on Rock Creek at Stevensville....	E. S. Dorman, Ch. Engr., R. C. Power Company.
MISCELLANEOUS				
New Jersey.....	Paterson.....	Oct. 14.....	Building central fire headquarters.....	W. A. Hopson, Chm. Com. Fire Dept.
California.....	Los Angeles.....	Oct. 14.....	Furnishing creosoted piles and lumber for wharf.....	H. B. Ferris, Sec'y. Bd. Pub. Wks.
Ohio.....	Rocky River.....	Oct. 14.....	Erecting a municipal building; M. M. Gleichman, Arch., Clvld.	W. M. Dean, Village Clerk.
Washington.....	Seattle.....	Oct. 14, 10 a.m.....	Furnishing three street flushing machines.....	C. B. Bagley, Chm., Bd. Pub. Wks.
New York.....	New York.....	Oct. 14, noon.....	Bldg. dumping boards at foot of W. 87th and 134th sts., No. Riv.	Wm. H. Edwards, St. Clean. Comr.
Washington.....	Seattle.....	Oct. 14.....	Furnishing three street flushing machines.....	C. B. Bagley, Sec'y. Bd. Pub. Wks.
Nevada.....	Winnemucca.....	Oct. 15.....	Constructing 1,050 ft. reinforced concrete retaining walls.....	R. E. Trousdale, Clk. Bd. Cy. Comrs.
Massachusetts.....	Boston.....	Oct. 17, noon.....	Disposal of refuse for 10 years from Jan. 1, 1912, \$5,000 check.	Louis F. Rourke, Supt. of Streets.
Nebraska.....	Kearney.....	Oct. 17.....	Furn. 1,000 ft. 2 1/2 in. best brand fire hose.....	Geo. E. Ford, City Clerk.
New York.....	Poughkeepsie.....	Oct. 18, noon.....	Building Tuberculosis Hospital.....	Board of Health.
New York.....	New York.....	Oct. 20.....	Construction, equipment and operation of tri-borough subway and elevated system, 44 miles; private money.....	Pub. Serv. Commission.
Kansas.....	Hays.....	Oct. 20, noon.....	Erecting public library; A. T. Simmons, Arch., Bloomington, Ill.	E. S. Beach, Chm. Library Com.
New York.....	New York.....	Oct. 27.....	Bldg. new subways, 44 miles of trackage; cost \$125,000,000; two plans. one with city money.....	Public Service Commission. Board Public Works.
Indiana.....	New Albany.....	Oct. 28.....	Removal of garbage.....	Graham D. Fitch, Col. U. S. Engrs.
Minnesota.....	Duluth.....	Oct. 31, noon.....	Building pierhead crib and riprap embankment at Ashland, Wis.	H. Ashplant, Chm. Fire Committee.
Ontario.....	London.....	Nov. 2.....	Furn. motor fire engine, 700 to 1000-gals. capacity, complete....	James R. Earle, Clk., Boro. Council.
New Jersey.....	Highland Park.....	Nov. 10, 8 p.m.....	Furnishing 300 ft. 2 1/2-in fire hose in 50-ft. lengths.....	Board of Public Works.
California.....	San Francisco.....	Nov. 16.....	Construct. two incinerating plants, 120 tons each, cost \$250,000	

STREET IMPROVEMENTS

Birmingham, Ala.—Council has adopted ordinance for building boulevard from Fairview to Palmer Station at cost of \$25,000; also confirmed ordinances for paving 7th and 8th aves., Cliff road and streets surrounding Rhodes Park.

Tuscaloosa, Ala.—Council is considering paving of Broad and Greensboro sts.

Enfield, Conn.—Town has appropriated \$20,000 for highways and bridges.

Jacksonville, Fla.—Paving of Church st. is being considered.

Lewiston, Ida.—General movement for street paving in the residence district and construction of cement sidewalks throughout city has been started.

Joliet, Ill.—Paving Joliet st., to Robert Shannon.

Springfield, Ill.—City is considering brick paving on Jackson, 14th and Edwards sts. and sheet asphalt paving on Cassidy st.;

will also pave Laurel st.; cost \$6,000.—Frank Hamilton, City Engineer.

New Castle, Ind.—Proposition to improve South Fourteenth st. and Lewisville pike under provisions of the three-mile road law has been turned down by County Commissioners.

Independence, Kan.—Committee of the Council has been appointed to take up with interested property owners the proposition of converting Electric st. from Chrysler st. west of city limits into 80-foot boulevard.

Lexington, Ky.—Residents of Oldham ave. are urging that street be reconstructed with macadam roadway, sanitary sewer and concrete sidewalks.

Baltimore, Md.—Council is considering resurfacing of one or two cobblestone streets with asphalt next spring.

East Longmeadow, Mass.—Town has voted to appropriate \$1,000 for repairs on Markham Hill road.

Lansing, Mich.—Washington ave. may be repaved with brick; Council has ordered grading of Holmes st. at cost of \$2,857.50.

Marshall, Mich.—The city is considering the proposition of bonding for \$25,000 for paving purposes.

St. Joseph, Mich.—Cost of resurfacing Lake Shore macadam road from Winchester ave. to the city limits has been estimated at \$3,000; City Engineer has been instructed to prepare plans and specifications for paving six alleys and submit same to the Council.—Matthias Weber, City Clerk.

Duluth, Minn.—Work on the paving of West Michigan st., between 8th and 12th aves. west, is expected to begin shortly according to City Attorney Bert Fesler; all the work will be done by the railroad company, which will hire and pay the contractor; sandstone blocks will be laid on a concrete base.

Collins, Miss.—Covington County Supervisors have issued \$50,000 bonds for road improvements in Third District.

Jackson, Miss.—The Goods Roads Commission appointed by the Hinds County Board of Supervisors to supervise the expenditure of \$200,000 on the construction of good roads in the First and Second districts has organized by electing T. H. Bryant as chairman and Eugene Simpson as secretary; the other member of the commission is W. J. Davis.

Tunica, Miss.—Tunica County Commissioners have authorized \$50,000 bond issue for construction of roads and bridges.—E. P. Mangum, President Board of Supervisors.

Kansas City, Mo.—Widening of Baltimore ave. from 60 to 80 ft. is being urged by property owners.

Kansas City, Mo.—Board of Public Works has decided to remacadamize Wash st.; lay creosoted block pavement and artificial stone curbing on 12th st.

Hastings, Neb.—Paving of 2d st. and St. Joe ave. is being considered.

Franklin, N. H.—Council is considering laying out of highway from E. Pleasant to Terrace st.

Gloucester, N. J.—Council is considering paving of Lane ave., 3d and 4th sts., and resurfacing of portion of Market st.

New Brunswick, N. J.—Repairing of Newark road is being urged.

Perth Amboy, N. J.—Council will consider paving of Sheridan st.

Plainfield, N. J.—Bids will be received Oct. 20 for \$30,000 street improvement bonds.

Trenton, N. J.—Council has passed ordinances for paving West End ave. with macadam, with asphalt binder; Belmont Circle, from Bellevue to Stuyvesant ave., with Filbertine; Ferry st. with Filbertine; also received petitions for paving three streets with Filbertine.

Albany, N. Y.—Council has passed ordinances for grading Delaware ave. at cost of \$5,000; improving South Pearl st., \$15,000; also Lancaster and West Lawrence sts.

New York, N. Y.—City has \$25,000 available for repaving 79th st. road; Park Commissioner Stover is urging immediate beginning of work.

Seneca Falls, N. Y.—Bond issue of not more than \$45,000 has been recommended by Special Citizens Committee appointed to consider paving plans.

Syracuse, N. Y.—Council has decided to grade West Newell st.

Charlotte, N. C.—City Executive Board has recommended to Board of Aldermen paving of portions of nine streets, aggregate cost being estimated by Joseph Firth, City Engineer, at \$73,430.10 if bitulithic is used, and \$37,717.70 if tar binder is used with macadam.

Greensboro, N. C.—City will pave 2,000 feet of Buchanan st. with vitrified brick; cost, \$2,000 to \$2,500.

Defiance, O.—Estimates have been prepared for paving 2d, 5th and lower Perry sts.

Mansfield, O.—Council has passed ordinances for street improvements.

Greenville, O.—No bids were received Sept. 30 for building Jaysville and Sampson roads.—Jas. C. Wonders, State Highway Commissioner.

Youngstown, O.—Council has passed ordinances for issuance of \$3,000 bonds for repaving streets; \$5,000 bonds for opening Erie st. and for proceeding with paving of two streets.

Harrisburg, Pa.—Finance Committee is favorable to ordinance providing for paving portions of four streets on Allison Hill.

Philadelphia, Pa.—Council is considering repaving of South st. with wood blocks; grading and macadamizing Lancaster ave. and repaving Locust st.

Belleville, Tex.—Precinct No. 1, Austin County, has voted \$25,000 bonds for road improvements.

Dallas, Tex.—Resolutions have been adopted by Board of Municipal Commissioners calling for bids upon specifications for paving of Holmes st. between Grand ave. and Pennsylvania, and of Grand ave. between Holmes and Ervay streets; brick, asphalt, bitulithic, wooden blocks and asphaltic concrete are materials upon which bids are called for.

Fairfield, Tex.—Freestone County Commissioners will construct air line highway from Teague to this city; \$50,000 bond issue available.

Fort Worth, Tex.—Appropriation of \$304,100 for repairs to city streets, bridges and culverts, engineering expense incidental to the paving of streets and laying of water and sewer mains, will be asked by Street Commissioner Maddox.

Houston, Tex.—Western Land Corporation, Box 392, desires correspondence with contractors relative to letting paving contracts on two new townsites and one city suburban townsite; construction to include curbment sidewalk and curb, and shelled street work; about \$25,000 will be expended.

Port Lovaca, Tex.—T. H. Clement has been engaged to make survey preparatory to proposed street paving.

Texarkana, Tex.—Mayor J. P. Kline has recommended better streets and sidewalks.

Lynchburg, Va.—Good Roads Association, State Senator Strode President, is urging \$135,000 bonds for improvements on macadam roads.

Petersburg, Va.—Council has appropriated \$1,160 for improvement of Jefferson st.

Seattle, Wash.—City Engineer R. H. Thomson has estimated cost of the following street improvements: Eighth ave., and other streets, paving, asphalt laid upon the existing roadway, \$19,500; Court Pl., paving with asphalt, \$1,575; 37th ave., South, and other streets, grading and curbing, \$1,400; Yesler Way, paving with granite blocks, \$10,000.

Beloit, Wis.—Building of road along old mill race has been estimated at \$2,300.

Belleville, Ont., Can.—Board of Works has decided to lay permanent pavement on Front st. between Victoria ave. and Bridge st.

Wynyard, Sask., Can.—Council is inviting tenders for sidewalks and their construction will complete walks in business portion of town.

Saltillo, Mex.—The paving of all the principal streets is to be undertaken; surveys have already been made.

CONTRACTS AWARDED

Montgomery, Ala.—Paving Holcombe and two other streets, to Barber Asphalt Co.; Moulton st., to Hassen Cement Co.

Hermosa Beach, Cal.—To Barber Asphalt Paving Co., 1015 Central Bldg., Los Angeles, for 33,000 sq. yds. Warrenite pavement, 1½-in. surface on 3½-in. bituminous concrete base at 19.5c. and 20,000 lin. ft. curb at 16c. per ft.; total cost about \$64,000.

Hartford, Conn.—State road work: City of Hartford, 1,335 lin. ft. macadam-telford road, 19 ft. travel way and 4-ft. cobble gutters to Thomas Kearney, Meriden, Conn., 95c. per sq. yd. for macadam, \$1.70 per sq. yd. for telford, 85c. per lin. ft. for rubble drain, \$1 per sq. yd. for cobble gutters; Sternberg & Cadwell, West Hartford, Conn., only other bidder: \$2.06 per lin. ft. for macadam, \$3.26 per lin. ft. for telford, \$1 per lin. ft. for rubble drain, 75c. per sq. yd. for cobble gutters. Town of Farmington, 2,011 lin. ft. macadam-telford road, including one 12-in. tile pipe culvert, 16-ft. travel way, 4-ft. shoulders and gutters, to O. T. Benedict, Pittsfield, Mass., \$2.39 per lin. ft. for macadam, \$2.99 for telford, 80c. per lin. ft. for rubble drain; Sternberg & Cadwell, West Hartford, only other bidder, macadam \$2.53, telford \$3.25, rubble drain \$1.25.

Town of Union, First Section, 2,385 lin. ft. graded telford road on the Union-Stafford Springs turnpike, including one 12-in. and one 18-in. tile culverts, to Amos D. Bridge's Sons Co., Inc., Hazardville, Conn., \$7.997 for entire grading, 60c. per lin. ft. extra for telford, \$1 per lin. ft. for rubble drain; other bidders were: Tony Leo, Thompson, \$8.300, 73c., \$1; Ahearn Bros., Norwich, \$12.500, 55c., 95c.; William Maloney, West Hartford, \$9.078, 70c., \$1; A. Brazos & Sons, Middletown, \$13.500, 40c., 80c.; Sternberg & Cadwell, West Hartford, \$16.623, 63c., \$1; Second Section, 2,873 lin. ft. graded telford road, 14-ft. travelway, including one 15-in. and three 18-in. tile culverts, to Amos D. Bridge's Sons Co., Inc., Hazardville, \$5.397 for the entire grading, 60c. per lin. ft. extra for telford, \$1 per lin. ft. for rubble drain; other bidders were: Tony Leo, Thompson, \$6.700, 75c., \$1; William Maloney, West Hartford, \$5.832, 70c., \$1; Ahearn Bros., Norwich, \$6.534, 60c., \$1; A. Brazos & Sons, Middletown, \$7.900, 40c., 80c.

Town of Killingly, 6,075 lin. ft. macadam-telford road on the Elmville-Dayville turnpike, 14-ft. travelway and 5-ft. shoulders and gutters, including one 15-in. and one 24-in. tile culverts, to Town of Killingly, John A. Gilbert, First Selectman, \$1.35 per lin. ft. for macadam, \$1.95 for telford, 70c. per lin. ft. for rubble drain; other bidders: A. Brazos & Sons, Middletown, \$1.70, \$2.10, 80c.; A. D. Bridge's Sons Co., Inc., Hazardville, \$1.83, \$2.43, \$1; Lane Construction Corp., Meriden, \$1.45, \$1.85, \$1; Second Section, 6,780 lin. ft. graded telford road, 14-ft. travelway and 4-ft. shoulder and gutters, including one 15-in. and one 24-in. tile culverts, to Town of Killingly, John A. Gilbert, First Selectman, \$4.068 for entire grading, 60c. per lin. ft. extra for telford, 70c. per lin. ft. for rubble drain; other bidders: Ahearn Bros., Norwich, \$5,000, 60c., \$1; A. Brazos & Sons, Middletown, \$6.440, 40c., 80c.; A. D. Bridge's Sons Co., Inc., Hazardville, \$8.563, 60c., \$1; Lane Construction Corp., Meriden, Conn., \$4,900, 56c., \$1.

Fort Mott, Del.—Building Fort Mott road, to Harry Clark, Delaware City, \$10,000.

Chicago Heights, Ill.—Paving, bids opened Sept. 26, to Chicago Heights Coal

Co., city, as follows: 18,093.64 sq. yds. vit. block paving, 2-in. sand cushion on 6-in. concrete foundation, asphalt fill, \$2.29½; 10,302.68 lin. ft. concrete curb, 6x18-in., 70c.; 98 c.-i. crossing plates, 5 ft. x 1 ft. x ¾ in., each \$3.25; 886 lin. ft. 5-ft. concrete crossing curb, 32c.; adjustment of 57 catch basins, each \$3; adjustment of 44 manholes, each \$3; total, \$49,641.

Elkhart, Ind.—To F. W. Hillman for construction of concrete walks on Columbia ave. and North st., 7½c. per sq. ft.

Vincennes, Ind.—P. D. Green et al., gravel road, to P. W. Lenehan, \$13,275; Fred Brackman et al., gravel road, to Herbert F. Jones, \$9,500; J. J. Risch et al., gravel road, to Jas. O'Donnell, \$14,547; J. C. Lett et al., gravel road, contract to Jesse Williams, \$3,399.

Lexington, Ky.—Paving Park ave. with macadam, to C. C. Miller & Co., rock \$2.50 per lin. ft., excavation 45c. per cu. yd.; Woodland ave., to same firm, rock \$2.60, excavation 45c.

Louisville, Ky.—Reconstructing 3d ave. from the monument to the L. & N. tracks and Green st., from 2d to 3d st., with asphalt, to Barber Asphalt Co., \$21,000.

Baltimore, Md.—Construction of 3.2 miles between Severn River bridge and Arnold station, on Annapolis Short Line, to F. M. Duval; grading, \$7,386.35; stone in place, \$25,347.14; pitch surfacing, \$8,147.20; bridging, \$5,632.30.

Charlton, Mass.—Constructing a road, to Lane Construction Co., Meriden, Conn., \$8,699; other bidders: T. J. Magne, West Newton, Mass., \$9,035; L. C. Corehia, Boston, \$9,069; M. J. Camarco, Lee, Mass., \$9,298; Worcester Broken Stone Co., \$9,332; A. de Stefano, Boston, \$9,343; R. F. Hudson, Melrose, Mass., \$9,446; G. J. Cellitti, Springfield, \$9,735; Tony Leo, Thompson, Conn., \$9,933; F. E. Ellis, Melrose, \$10,170; De Polito & De Pietro, Boston, \$10,222.

Lawrence, Mass.—To the M. O'Mahoney Estate, to build highway on north bank of Merrimack River from the Dracut line to Lowell st., Methuen, \$6,836.

Watertown, Mass.—Extending Charles River road, to James H. Fannon, Somerville, \$8,563; other bidders: Rowe Contracting Co., Brighton, \$8,873; Martin & Condon, Watertown, \$9,130; M. Maloy & Son, Waltham, \$9,524; T. Stuart & Son Co., Newton, \$10,021; Fred S. and A. D. Gore, Boston, \$10,556; James Driscoll & Son, Brookline, \$10,765.

Jackson, Miss.—Council has adopted bitulithic as material with which State st. is to be paved and awarded contract to the Southern Bitulithic Co., Nashville, though cost is about \$10,000 more than for asphalt.

Bayonne, N. J.—Paving as follows: to Uvalde Asphalt Paving Co., 1 Broadway, New York, N. Y., asphalt on 42d, 13th and 47th sts., \$19,449, and with brick 19th st., to E. M. Mullen & Co., \$5,290.

Mount Holly, N. J.—By Burlington County Freeholders, to Aaron M. Mathis, New Gretna, to gravel Mount Holly and Jobstown road from former place to Chambers' Corner.

Perth Amboy, N. J.—Resurfacing Rector st. and pavement around fire house of Garfield Hose Co., to Standard Bitulithic Co.

Ringoes, N. J.—Building macadam road from Ringoes to Ringoes Station, to Sigafos & Poore, Reiglesville, Pa., \$4,766.—Grant Davis, Whitehouse Station, County Engineer.

Trenton, N. J.—Paving Parkside ave., to Filbertine Paving and Construction Co.; Washington st. with asphalt, to McGovern Contracting Co.

Buffalo, N. Y.—To German Rock Asphalt and Concrete Co., Ltd., for repaving of Carroll st. with asphalt, \$9,220; to Frank V. E. Bardol, 401 D. S. Morgan Bldg., for repaving Pine st. with brick, \$4,900.

Oneida, N. Y.—Paving Stone st., to Conroy & Nixdorf, \$4,342.

Oyster Bay, L. I., N. Y.—Building East Shore road, to Powers & Wheeler, \$7,000.

Yonkers, N. Y.—Improvement of Van Buren st., to Kelly & Hannefan, \$4,595, 30 days.

Cincinnati, O.—Road improvements, to B. Niehaus, for three miles of improved pike in Lawrenceburg and Harrison road, under supervision of State Highway Board, \$18,585; to N. Ruebel, improvement of Gurney road, Queen City ave. to Glenway ave., \$8,554.50; to N. Ruebel, improvement of Race ave. with culverts and drains, \$4,522; to John Nickoson, improvement of South ave. and Werk road, Cleves and Bridge-town pike to Cleves and Warsaw pike, \$7,750; to F. J. P. Brackett, concrete bridge and fill on road from Miamitown to Mount Hope, near Simons' place, \$1,914; to R. S. Flinn, improvement of Walton Creek road, \$1,437; to H. E. Steele, concrete bridge in Burns road near Stone Mill road, \$899.

Greenville, O.—Building Children's Home, road to Baker and Krusely, \$6,635.95.

Mt. Vernon, O.—Columbus and Delaware road, to Ohio Paving Co., Toledo, \$16,699.85.

Carbondale, Pa.—Grading and curbing Fallbrook st., to Boland Bros., 59c. for curbing and 28c. for grading.

Wilkesburg, Pa.—To McDivitt & Steele, Wilkesburg, for grading, curbing and paving with vit. brick Rebecca ave. and grading and paving Culp Way; storm sewers in Kelly ave. and Ecker Way, to McCrady Bros., Braddock; Todd and Lanar sts. and Penn ave., to Sawders Construction Co., Pittsburg; total about \$12,000.

Seattle, Wash.—38th ave. and other streets, paving to P. J. McHugh at \$19,520; Independent Asphalt Paving Co., \$21,328; 31st ave. and other streets, paving with asphalt, to same at \$39,627; the Independent Asphalt Paving Co. bid \$37,363; 15th ave., N. E., and other streets, water mains, to Ferguson-Coit Co., \$10,559; other bidders: Allain & Hull, \$11,210; American Contracting Co., \$10,990; Powers Contracting Co., \$11,670; Dicken & Rightmire, \$11,499; Will Kopta, \$11,983; Woodland Park ave. and other streets, grading to W. F. Manney & Co., \$14,064; S. F. Mouglin, \$15,997; grading of the alley in Block 8, Randall's addition, to Will Kopta, \$1,125.

Midvale, Utah.—Paving sidewalks, to Jas. Wood, Murray, \$5,000.

Seattle, Wash.—Improving 12th ave. S., by grading, laying water mains, sewers, etc., to Erickson Construction Co., Pioneer Bldg., city, at a total of \$336,690; 4,145 lin. ft. 42-in. lock bar steel pipe ¼-in. thick, \$12; 1,150 lin. ft. 36-in. lock bar steel pipe, ¼-in. thick, \$11; 5,400 lin. ft. 20-in. c.-i. pipe, class A, \$5; 24 lin. ft. 16-in. c.-i. pipe, class A, \$4; 318 lin. ft. 12-in. c.-i. pipe, class B, \$2.50; 680 lin. ft. exist. 12-in. c.-i. pipe to be taken up and relaid, \$1.50; 1,300 lin. ft. exist. 6-in. c.-i. pipe to be adjusted, 75c.; 4,600 lin. ft. exist. 8-in. c.-i. pipe to be adjusted, 75c.; 800 lin. ft. exist. 12-in. c.-i. pipe to be adjusted, \$1; 1,000 lin. ft. exist. 42-in. steel pipe adjusted, \$3; 5,400 lin. ft. exist. 20-in. wood pipe removed, 50c.; 1,500 lin. ft. exist. 36-in. wood pipe removed, \$1; 4,100 lin. ft. exist. 42-in. wood pipe removed, \$1.50; 2,378 lin. ft. 10-in. pipe sewer, \$2; 1,468 lin. ft. 12-in. pipe, \$2.25; 42 lin. ft. 15-in. pipe, \$2.50; 508 lin. ft. 21-in. pipe sewer, relaid, \$2; clearing and grubbing, lump sum, \$10,000; 230,000 cu. yds. earthwork, 45c.; 238 M ft. curb and gutters, \$16; 530 M ft. wood walks, \$16 per M; 1,724 M ft. new lumber plank, \$16, etc.; other bidder, Grant, Smith & Co. \$386,436.

Superior, Wis.—Paving West 5th st., to E. Hawarden, \$2,500.

BIDS RECEIVED

Los Angeles, Cal.—Improving 11,712 ft. of the Monterey Pass road, bidders: A. C. St. John, 1017 Ingraham st., \$8,100 for grading and constructing culverts; \$2 per ton for placing the oiled macadam paving; \$15 per cu. yd. for class A concrete; class B, \$13; reinforcing steel, 5c. per lb.; F. F. Prendergast, \$11,000 for grading and constructing culverts; \$1.75 per ton for paving; class A concrete, \$16; class C, \$15; steel, 6c. per lb.; amount of oil macadam paving required is 8,332 tons.

Hartford, Conn.—Town of Rocky Hill, 6,948 lin. ft. graded or macadam road, including two 12-in. tile culverts and one reinforced concrete arch culvert, Antonio Vito, Thompson, \$11,000 for the entire grading, or \$2.91 per lin. ft. for macadam; William Maloney, West Hartford, \$6,480 for grading, \$1.10 per lin. ft. for macadam; Pierson Engineering & Construction Co., Bristol, \$5,843 for grading, \$2.30 per lin. ft. for macadam; A. E. Douglas, Glastonbury, \$8,500 for grading, \$2.95 for macadam; B. D. Pierce, Jr., Co., Bridgeport, \$10,434 for grading, \$2.38 for macadam; F. Arrigoni & Bro., Middletown, \$6,777 for grading, \$2.09 for macadam; A. Brazos & Sons, Middletown, \$7,643 for grading, \$1.95 for macadam. Town of Vernon, 7,280 lin. ft. macadam-telford road, including four 15-in. one 18-in. and one 15-in. tile culverts; Lane Construction Corp., Meriden, \$1.71 for macadam, \$2.15 for telford, \$1 for rubble drain; O. T. Benedict, Pittsfield, Mass., \$2.13, \$2.73, 80c.; A. Brazos & Sons, Middletown, \$1.82, \$2.07, 80c.; A. D. Bridge's Sons Co., Inc., Hazardville, \$1.77, \$2.47, \$1; Thomas Kearney, Meriden, \$1.78 per lin. ft. for macadam.

Chicago, Ill.—Construction of concrete sidewalks: H. A. Larsen, 145 La Salle st., Chicago, N. Ashland ave., Lawrence, 56.19 ft., south, 120 sq. ft., 23½c. per ft.; Connors st., Sedgwick st., Hudson ave., 100 sq. ft., 34c.; Cottage Grove ave., 500 sq. ft., 15.74c.; S. 5th ave., 150 sq. ft., 24c.; S. 41st court, 3,960 sq. ft., 13.74c.; N. 45th ave., 150 sq. ft., 23c.; S. 45th court, 900 sq. ft., 13.74c.; Humboldt ave., 1,500 sq. ft., 15.74c.; Langley ave., 144 sq. ft., 23c.; Lincoln ave., 190 sq. ft., 19.64c.; McLean ave., 450 sq. ft., 14.74c.; Milwaukee ave., Lawrence ave., 1,300 ft., south, no bids received; W. North ave., 7,800 sq. ft., 12.64c.; Norwood Park ave., 5,600 sq. ft., 18.64c.; E. 134th st., 750 sq. ft., no bids received; N. State st., 400 sq. ft., 16c.; Sullivan st., 313 sq. ft., 17.74c.; N. Sawyer ave., 150 sq. ft., 27c.; S. Troy st., 4,100 sq. ft., 12.74c.; N. Albany ave., 130 sq. ft., 24½c.; Albert Graff, 70 LaSalle St., Chicago, S. Canal

st., 320 sq. ft., 19c.; W. 83d st., 1,680 sq. ft., 19c.; S. Halsted st., 3,500 sq. ft., 17c.; Deming & Wedt, 84 LaSalle st., Chicago, N. California ave., 720 sq. ft., 15.7c.

New Orleans, La.—Street improvements: Standard Paving & Construction Co., lowest bidder, \$26,480, for paving and laying creosoted wooden block on Hurst st. to Exposition Blvd., and \$13,585, paving with same material Joseph st. from Prytania to Hurst st.; A. Black, \$27,945, for paving with creosoted wooden block and bitulithic Prytania st. from Robert to Joseph sts.; Craven & Co., \$7,762.20, for subsurface work on Joseph st. from Prytania to Hurst st.; at \$19,165.80, subsurface on Prytania st. from Robert to Joseph st.; \$23,350.90, subsurface on Hurst st. from Joseph st. to Exposition Blvd.—W. J. Hardee, City Engineer.

Baltimore, Md.—Frederick County, between Knoxville and Petersville, 4.43 miles, Coblenz & Clift, \$32,605.95; between Petersville and Jefferson, 2.67 miles, M. J. Grove, \$51,596.80. Harford, between the Conowingo bridge and Dublin Cross road, 4.24 miles, J. E. Spencer, \$34,737.71; between the Baltimore county line and Belair turnpike, 2.76 miles, J. E. Spencer, \$26,122.12. Cecil, between Elkton and Back Creek road, 3 miles, Juniata Paving Co., \$31,646.40; between Chesapeake City and Back Creek road, 2.47 miles, S. S. Andrews, \$28,005.80; for Annapolis Boulevard, between the Severn River bridge and Arnold's Station, 3.2 miles, F. M. Duvall, \$46,520.99.

Brooklyn, N. Y.—Repaving with asphalt on concrete foundation Warren st., from Clinton st. to Court st., and from Smith st. to 3d ave., Brooklyn Alcatraz Co., 407 Hamilton ave., city, lowest bidder, as follows: 9,855 sq. yds. asphalt pavement, 5 years' maintenance, 82c.; 50 sq. yds. old stone pavement, relaid, 40c.; 1,370 cu. yds. concrete for pavement foundation, \$4; 5,800 lin. ft. new curbs, set in concrete, 90c.; 250 lin. ft. old curbs reset in concrete, 55c.; 18 noiseless covers and heads for sewer manholes, each \$13.50; total, \$19,132; other bidders: Barber Asphalt Paving Co., 39 Church st., New York City, \$21,010; Cranford Co., 52 9th st., city, \$20,127; Uvalde Asphalt Paving Co., 1 Broadway, New York City, \$21,296.

New York, N. Y.—Paving, Barber Asphalt Co., 30 Church st., lowest bidder: Sheet asphalt on St. John ave., \$10,875; asphalt block on E. 150th st., \$9,521; asphalt block on Tinton ave., \$9,348, and asphalt block on Villa ave., \$14,829; completing abandoned contract for regulating, grading, setting curb, flagging, sidewalks in West Farms road in old Village of Westchester, B. C. Murray lowest bidder: 1,750 cu. yds. earth excav., 99c.; 1,100 cu. yds. rock excav., \$1.65; 32,000 cu. yds. fill, 19c.; 4,150 lin. ft. new curb, 90c.; 17,500 sq. ft. new flag, 22c.; 5,750 sq. ft. new bridge-stone for crosswalks, 45c.; 2,900 cu. yds. dry rubble masonry for retaining walls, culverts and gutters, \$1.45; 10 cu. yds. brick masonry, \$16; 750 lin. ft. vitr. stoneware pipe, 12 in., \$2.50; 125 lin. ft. vitr. stoneware pipe, 15 in., \$2.75; 100 lin. ft. vitr. stoneware pipe, 18 in., \$3.25; 635 lin. ft. of new iron fence, \$1.75; 4,800 lin. ft. guard rail, 10c.; 800 cu. yds. class "A" concrete, \$11; 102,900 lbs. steel rods in place, 4.5 cts.; 4 manholes, \$75; 9 catch basins, \$75; 15 cu. yds. of rubble masonry in mortar, \$4.50; total, \$42,800. Totals of other bidders: Garvey Bros., \$64,968; McDonald & Barry, \$61,873; J. B. Malatesta, \$61,575; W. H. Graner, \$49,579, and J. J. Shea, \$47,434.

Fargo, N. D.—Culvert on 13th ave. S. to be constructed of 16 gauge, 24-in. culvert pipe with galvanized iron bands at every 2 ft.; Butler Manufacturing Co., Minneapolis, \$1.32½ per lin. ft.; North Dakota Metal and Culvert Co., \$1.83 with bands and \$1.64 without bands; Berger Manufacturing Co., per Frank Lynch, \$1.98.

SEWERAGE

Etna Mills, Cal.—Installation of sewer system at cost of \$15,000 is being considered.

Hanford, Cal.—City Engineer Jansen has prepared plans for proposed septic tank and sewer connections.

Monterey, Cal.—All bids have been rejected for construction of sewage disposal tank; lowest bidder, Pringle & Dunn, \$4,750.

San Mateo, Cal.—Citizens have voted \$24,000 bonds for installation of sewer system.

Sonoma, Cal.—Bonds, \$20,000, have been sold to be used for construction of a sewer system.—Newton V. V. Smith, Santa Rosa, Engineer.

Fruitvale, Col.—Storm culverts costing \$2,800 are to be constructed on four avenues and Wilson st. by Council.

Bridgeport, Conn.—Sewer Committee has recommended construction of sewer in Florence ave. and Edwin st.

Winsted, Conn.—Borough is considering construction of sewer system. E. A. Norton is interested.

Washington, D. C.—Rural Homes Development Co. desires information relative to sewer construction.—H. C. Allen, 709 Union Trust Bldg., Secretary.

Jacksonville, Fla.—Schofield Engineering Co. will prepare plans for construction of electric light plant.

Orlando, Fla.—Estimate is being made by W. W. Lyons, Jacksonville, for installation of municipal sewerage, water and light plant.—A. L. Beck, Chairman Special Committee.

Americus, Ga.—Council has called an election for issue of \$65,000 bonds for municipal improvements, including an extension of the sanitary sewerage system in the residence sections, and the building of a municipal electric lighting plant.

Eastman, Ga.—City will receive bids shortly for installation of sanitary sewer system.—Arthur Pew, Atlanta, Engineer.

Kirkwood, Ga.—Citizens have voted \$60,000 sewerage and water bonds.

Rome, Ga.—Citizens will vote Nov. 8 on \$50,000 of bonds for extension of sewer system.

Dixon, Ill.—City has rejected all bids for sewer work on North Ottawa ave.

West Dundee, Ill.—Bids will be received about Oct. 15 for construction of sewer system from plans of E. K. Wilson, Elgin; cost about \$15,400.—A. G. Schicklen, President, Village Trustees.

New Castle, Ind.—Engineering department is making arrangements to prepare plans and specifications for enclosing of the open sewer, known as the "Bowery Brook," which runs through center of city.

Charles City, Ia.—City is asking bids for construction of sewer on Jackson and Cedar sts.

Topeka, Kan.—W. G. Taudy, City Commissioner of Streets and Public Improvements, is planning 5-ft. sewer to handle sewage of entire western portion of city; cost \$30,000.

Topeka, Kan.—State Board of Health has asked Attorney General to begin proceedings against city of Eldorado to compel city to purify sewage before it is emptied into Walnut River.

New Orleans, La.—Budget Committee has reported favorably on ordinance appropriating \$5,000 for drainage on St. Charles ave. and \$25,000 for filling in neutral ground.

New Orleans, La.—No bids were received for \$700,000 drainage and sewerage system bonds.

Ruston, La.—City is considering construction of sewer system.

Lowell, Mass.—Lawrence st. sewer will be extended at cost of \$1,000; sewers will be constructed in three streets at cost of \$1,050.

North Andover, Mass.—City has awarded \$15,000 sewer bonds to E. M. Farnsworth & Co.

Gilbert, Minn.—City Engineer Bowman has submitted plans to the Village Council for proposed sewer system.

Laconia, N. H.—Council has decided to build sewer on Central st.

Caldwell, N. J.—Borough Council has directed the Sewerage Committee to arrange for a special election to pass on the sewerage question, as there will not be time to do the necessary advertising for the regular fall election.

Matawan, N. J.—Installation of sewers is being urged.

Summit, N. J.—Council has rejected all bids for construction of 4,960 lin. ft. of 8 and 10-in. vit. pipe sewer in Springfield ave. and Tulip st., manhole excavation, etc.—John S. Stiger, City Engineer.

Trenton, N. J.—Council has passed ordinances for constructing sewers in Wainwright and Illinois aves.

Winfield, L. I., N. Y.—Taxpayers' Association has decided to incorporate and build private sewer for village; \$10,000 worth of shares subscribed.

Belleville, O.—City will sell \$21,000 sewerage bonds on Oct. 31.

Carthage, O.—Council has decided to construct modern sewer system at cost of \$50,000.

Hubbard, O.—Council has passed favorably on proposition of Joint Council and Board of Trade Committee to install sewer system covering entire village, deciding to go ahead with improvement.

Middletown, O.—Council has passed ordinance for construction of sanitary and drainage sewer in Crawford st.—L. C. Heffner, Mayor.

Baker City, Ore.—Council has passed ordinance for storm sewers in three streets.

Portland, Ore.—Plans and specifications for first section of proposed Sullivan Gulch sewer has been filed by City Engineer Morris; cost \$269,489.

Chester, Pa.—Council has passed ordinances for sewers on 9th and Flower sts.

Harrisburg, Pa.—Finance Committee is favorable to construction of sewer on Penn st.

Pottstown, Pa.—Council has decided to postpone vote by people on constructing sewer system until next year.

Providence, R. I.—Committee on Sewers has recommended construction of sewers at cost of \$52,784.20.

El Paso, Tex.—W. E. Anderson will receive bids on two 6x12-ft. rotary screens, three alternate sewerage-dosing apparatus, 50,000 gals. in 10 minutes; three timed-controlled apparatus to discharge sewerage from filter beds, 50,000 gals. in 20 minutes.

Texas City, Tex.—Sewerage and water works system will be installed. A. B. Wolvin, Duluth, Minn., is interested.

Marinette, Wis.—City has rejected all bids for sewer from River to Jefferson st.

Vancouver, B. C., Can.—Estimate will be prepared of the cost of installing lateral sewers to connect with trunk sewer on Columbia st., Mount Pleasant.

CONTRACTS AWARDED

Pasadena, Cal.—To R. N. Nickevich, for sewers on Menton, Lucerne, Rio Grande, Denver, Elizabeth, Topeka and Atchison sts.

Sterling, Col.—Building four additional sewer districts, to Thos. McGovern, \$11,720.

Essex, Ia.—Building 12-in. sewer, to J. J. Dunnegan, \$3,462.

Marlboro, Mass.—Setting tanks in connection with new sewer, to Thos. P. Hurley, Marlboro, about \$8,383.

Duluth, Minn.—Sanitary sewers, eight alleys between 9th and 11th aves. East, to Erick Norquist & Co., \$1,166.70; 61st alley between Polk and Sherburne sts., to Pastoret-Lawrence Co., \$2,056.90; Wyoming st., to Gust Hiner, \$1,090.80; Juniata st., to E. Engle, \$1,168.10; Restormel alley and Atlantic ave., to E. Engle, \$1,132.57; Princeton ave., to J. E. Johnson, \$1,530.34; Wicklow alley and Michigan ave., to J. D. O'Connell, \$495.10; Glenwood st., to Johnson & Johnson, \$844.68; Glenwood alley between 57th and 60th aves., to E. Engle, \$735.86; Restormel st., with outlet in 2d st., to G. Hiner, \$1,704.95; Regent st., to Pastoret-Lawrence Co., \$1,407.42.

Harrison, N. J.—Building sewers in two streets, to Dennis Dunn, \$3,368.60.

Yonkers, N. Y.—Sewers in St. James terrace and Crestwood ave., to McDonald & Murray, \$4,088.

Nottingham, O.—Sanitary sewer in Hackett ave., to Gould & Mayback, Collinwood.

Salem, Ore.—To A. Burns, Spokane, Wash., for constructing North Salem sewer, \$93,000.

Hamilton, Ont., Can.—To E. Carroll, city, for sewer construction on Ravenscliffe ave., 90c. per ft. and 54c. per ft. on Grey st.; to J. T. Armstrong, city, for Glenside ave., 90c., and Platt ave., 97c.

BIDS RECEIVED

Princeton, Ill.—Extension of the sewer system to include 3,475 ft. 15-in. tile sewer, 12 manholes, etc.; E. R. Harding & Co., Chicago, \$6,570; Keyes & McNamara, La Salle, \$6,275.

Haddonfield, N. J.—Building storm sewers in Estaugh ave. and W. Main st.: Irving Bros., Baltimore, Md., \$10,337.80; Contrell Construction Co., Philadelphia, \$8,350; Monroe Paving & Construction Co., Philadelphia, \$1,678.34; Bell Bros., Haddonfield, \$9,468; Kelly & McFeeley Co., Camden, \$9,402.24.

Woodbury, N. J.—Construction of sewers from plans of the City Wastes Disposal Co., New York, N. Y.: John C. Schrade, Summit, N. J., \$30,559; Donato Delise, Philadelphia, Pa., \$18,631; Cantrell Construction Co., Philadelphia, Pa., \$19,017; B. F. Sweeten & Sons, Camden, N. J., \$18,501.

Niagara Falls, N. Y.—Construction of a complete sewer system in the new north end factory district; total amount about \$114,000; tunnel trunk sewer in Garfield ave.; the Read-Coddington Co. offered to complete the work in 20 working days for \$47,550; George S. Neilson, 200 working days at a cost of \$52,740; sewer along the railroad tracks from the tunnel shaft in alley between Franklin and Lafayette aves. to Maple ave., across railroad tracks from Maple ave. to intersection of Highland and Massachusetts, Read-Coddington Co., 150 working days, \$44,550; W. A. Shepard & Co., 160 working days, \$45,680; Cusano & Dower, 195 working days, \$43,910; brick and concrete sewer in Highland ave., W. A. Shepard & Co., 125 working days, \$9,670.10; Cusano & Dower, 135 working days, \$10,981; Tony Reynolds, 90 working days, \$10,111.90; sewer in Whippool ave., W. A. Shepard & Co., 22 working days, \$3,006; Cusano & Dower, 20 working days, \$2,656.75; Nick Nolfe, 25 working days, \$2,799.50; Tony Reynolds, 20 working days, \$2,723.60; Rinaldo Dominico Co., 35 working days, \$2,987.50; sewer in La Salle ave., W. A. Shepard & Co., 30 working days, \$2,873; Nick Nolfe, 30 working days, \$2,740; Cusano & Dower, 25 working days, \$2,535; Tony Reynolds, 20 working days, \$2,851; Peter Reach & Co., 70 working days, \$2,674; Joseph D'Anna, 29 working days, \$3,101; Rinaldo Dominico Co., 45 working days, \$2,355.

Yonkers, N. Y.—Sewer in St. James terrace and Crestwood ave., John Callahan, \$7,800, 60 days; Kelly & Hannifin, \$4,242; Frank Cianfagione, \$4,850; Joseph H. Russell, \$4,975; Joseph Cuozzo, \$4,995.82; Nicholas Mangini, \$6,600; McDonald & Murray, \$4,088; O'Rourke Bros., \$4,996.

Richmond, Va.—Constructing sewers, (a) Virginia ave. from the intersection of Hampton st. and Colorado ave. to the James River; (b) Dooley Ravine from the intersection of Hampton st. and Colorado ave. to the James River; (c) Leigh st. from 34th st. to the National Cemetery road; (d) Bloody Run Ravine from 34th and Franklin sts., to Williamsburg ave.: (a) The Metropolitan Contracting Co., Boston, Mass., for concrete and flume, \$124,655; for brick and flume, \$128,593; I. J. Smith & Co., Richmond, Va., \$107,859, and \$104,502; Stamper Ragland & Co., Richmond, Va., \$86,046 and \$80,489; Winston & Co., Richmond, Va., \$184,223 and \$170,222; A. W. Maynard, Richmond, Va., \$123,869 and \$116,089. Whiting Middleton Co., Baltimore, Md., \$114,530 and \$111,331; Thos. A. Barry, Richmond, Va., \$136,746 and \$134,626. (b) Winston & Co., Richmond, Va., concrete and flume, \$189,471, concrete and by pass, \$194,557, brick and flume, \$137,112, brick and by pass, \$142,198; I. J. Smith & Co., Richmond, Va., \$143,242, \$153,603, \$131,782, and \$142,143; Metropolitan Contracting Co., Boston, Mass., \$160,755, \$176,775, \$172,430 and \$188,431; Thos. A. Barry, Richmond, Va., \$138,667, \$143,567, \$130,539 and \$135,439. (c) A. W. Maynard, Richmond, Va., \$17,935; I. J. Smith & Co., Richmond, Va., \$18,546; F. J. McGuire, Norfolk, Va., \$15,372; J. B. Chewning, Richmond, Va., \$14,475; Warren F. Brenizer & Co., \$18,980; W. E. Fletcher, Richmond, Va., \$17,830; H. L. Driscoll, Richmond, Va., \$13,536; Cheatwood & Clay, Richmond, Va., \$16,460; Javi Perkins Construction Co., Richmond, Va., \$20,035. (d) W. F. Brenizer & Co., \$9,654; J. C. Weinbaum & Bros., Richmond, Va., \$8,020; H. L. Driscoll & Co., Richmond, Va., \$7,536; Cheatwood & Clay, Richmond, Va., \$8,311; Charles E. Boling, City Engineer.

WATER SUPPLY

Montgomery, Ala.—Mayor Wm. Gunter, Jr., has been authorized to enter into contract for repair and alteration of present air pumps at water works; to put them in keeping with change from steam pumping to that of electricity.

North Birmingham, Ala.—Southern Equipment Co., 2601 33d ave., desires prices and data on centrifugal pump, 1,000,000-gals. capacity per 24 hours against pressure of 150 pounds; pump to be operated with motor, alternate current, 60 cycles, two-phase, 220-250 volts.

Black Diamond, Cal.—Wells will be sunk on Brown's Island at cost of \$43,000.

Washington, D. C.—Rural Homes Development Co. desires information relative to installation of water system.—H. C. Allen, 709 Union Trust Bldg., Secretary.

Orlando, Fla.—Installation of water, light and sewerage plant is being considered; estimate being made by Engineer W. W. Lyon, Jacksonville.—A. L. Beck, Chairman Special Committee.

Eastman, Ga.—City will receive bids shortly on extension to water works.—Arthur Pew, Atlanta, Engineer.

Kirkwood, Ga.—Citizens have voted \$60,000 water and sewerage bonds.

Odel, Ga.—Prices are desired on c.-i. pipe, hydrants and water gates. R. F. Jackson can be addressed.

Clinton, Ill.—City will ask for propositions on both steam and electrical pumping plants.

Marion, Ind.—New boiler is to be purchased for water works plant.

Adair, Ia.—Installation of system of water works is being considered.

Lockport, La.—City is having plans prepared for water works; contemplates 20,000-gal. tank, steel tower and 4-in. mains through two principal streets.

Patterson, La.—City will construct water works at cost of \$30,000.—Fred A. Jones Co., Dallas, Tex., and New Orleans, La., Engineers.

Cambridge, Md.—The Cambridge Water Co. has completed plans for increasing the water supply; work includes construction of duplicate plant, boring of larger wells and installing compound duplex pumps.

Wayne, Mich.—Plans are being prepared by Riggs & Sherman, 613 Nasby Bldg., Toledo, O., for water works.—R. B. Cummings, Mayor.

Chisholm, Minn.—The annual budget of the Water, Light, Power and Building Commission has been fixed at \$80,000, of which \$16,000 will be for a pumping station at the filter plant, \$12,000 for new water mains, \$40,000 for new work and machinery and the remainder for miscellaneous purposes.

Kansas City, Mo.—Council has passed ordinance appropriating \$95,000 for water works pipe.

Libby, Mont.—Proposition to issue \$16,000 water works bonds has been carried unanimously; Council is now authorized to bond the town, but instead a franchise may be let; if a franchise is let it will also include electric lights and telephones.

Callaway, Neb.—Citizens have voted \$6,000 bonds for extension of water mains.

Yonkers, N. Y.—Council has adopted ordinance introduced by Alderman Corbalis providing for employment of a hydraulic expert at expense of \$500.

Fernbank, O.—Village will vote Nov. 8 on \$20,000 bonds to extend water system.

Niles, O.—Bids will be received Oct. 18 for \$15,000 bonds to extend water mains and construct a filtration plant.—Homer Thomas, City Auditor.

Eugene, Ore.—Plans for extending water system call for 14,500 ft. 4-in. c.-i. pipe, 3,722 ft. 6-in. iron pipe, 3,200 ft. 6-in. wood pipe and 4,000 ft. 4-in. wood pipe, all with the necessary fittings, to cost something less than \$8,700; total pipe wanted, 25,422 ft.; the Mayor, Mr. Henderson of the Fire and Water Committee, and Superintendent S. W. Taylor of the Water Department, will go to Portland to investigate cost of pipe and to place order to best advantage.

Philadelphia, Pa.—Tower in connection with high pressure system will be erected on old Fairhill reservoir site.

Aransas Pass, Tex.—City will soon sell \$25,000 bonds for municipal water plant.—W. H. Vernon, Mayor.

Knoxville, Tenn.—John G. Duncan Co., 308 West Jackson ave., desires 6-in. suction, 5-in. discharge, duplex second-hand pump, to throw 2-in. stream at capacity of 100 lbs. at 150-ft. elevation; immediate delivery.

Belton, Tex.—Citizens will vote Oct. 18 on \$11,000 bonds for water works improvements.—E. W. Ferguson, Secretary.

De Leon, Tex.—Fresno Township Co. is considering installation of water system.

Shiner, Tex.—City will require pump for water works. Address Louis Trautwein.

Texas City, Tex.—Water works system will be installed. A. B. Wolvin, Duluth, Minn., is interested.

Luray, Va.—City has selected N. Wilson Davis, Engineer, Harrisonburg, to consider plans for increasing water supply.

Norfolk, Va.—Council has endorsed emergency measures recommended by City Engineer Brooke and Water Engineer Dornin appropriating \$6,000 for making available practically all water on storage in the connected lakes.

Norfolk, Va.—Finance Committee is considering \$1,820 appropriation for 12-in. water main on Colonial ave.

Portsmouth, Va.—Citizens will vote on \$600,000 bonds for erection of municipal water plant.

Burnaby, B. C., Can.—Ratepayers' Association has appointed committee to inquire as to the best kind and quality of water pipe required for new water system to be installed.

CONTRACTS AWARDED

Hartford, Mich.—Laying water mains, to M. C. Mortimer, Edw. Hickey and Oscar Martin, \$2,417.

Kansas City, Mo.—To Farney & Baker, for construction of nearly a mile of revetment on the Clay County side of the Missouri River above Quindaro.

Osmond, Neb.—To Des Moines Bridge and Construction Co., to install a system of water works.

Perth Amboy, N. J.—Furnishing 12-in. pipe for extension of water main from Matano pl. to Convery pl., about 96 tons, to the United States Cast Iron Pipe and Foundry Co., at a ton price of \$20.30; to John Fox & Co., for supplying about 36 tons of 6-in. pipe, at \$20.75 per ton.

Saranac Lake, N. Y.—Laying water mains on six streets, to J. B. Dower, Ballston Spa, \$20,996.75.

Thiells, N. Y.—Water works and sewer system at Letchworth Village, Thiells, to R. T. Ford Co., Rochester, \$128,587.

Mansfield, O.—To Central Foundry Co., Chicago, Ill., for about 580 tons of 12 and 14-in. pipe, for about \$12,000.

Orrville, O.—Laying about 9,482 ft. 4 to 10-in. pipe, setting hydrants, etc., to Eshelman & Bechtel Co., Orrville, \$7,922.

Carbondale, Pa.—Furnishing eight fire hydrants, to Darling Pump Co., \$21.50 each; other bidders, Eddy Valve Co., Rensselaer Manufacturing Co., Leaves Steel Works, Chapman Valve Co. and the Glozier Valve Co.

Fairmont, W. Va.—Furnishing nearly 900 tons of water pipe, involving expenditure of more than \$19,000, to United States Cast Iron Pipe and Foundry Co., Pittsburg.

Blairmore, Alta., Can.—Installation of water works system, to W. J. Budd, Blairmore; water will be taken from Wolf

Creek, two miles distant, and will be brought to the village in 12-in. wire wound wooden pipes.

BIDS RECEIVED

Jacksonville, Fla.—Furnishing 3,000,000-gal. covered reinforced concrete reservoir, Logan Concrete and Engineering Co., city, \$57,500; J. D. McGee, Greenville, S. C., \$54,850; Bryan & Co., city, \$62,137.50; F. W. Long & Co., city, \$74,445; Municipal Engineering and Contracting Co., Chattanooga, Tenn., \$59,436; Wm. T. Cotter, city, \$62,500; bids referred to Water Committee for report.—R. V. Ellis, Superintendent.

Galveston, Tex.—Installing submerged water main across draw for causeway, Blodgett Construction Co., only bidder, \$10,900.

Provo, Utah.—Water works improvements: On aqueduct, James Kennedy Construction Co., \$51,845.30; Holdaway Loan and Investment Co., \$47,048.36; Strange & McGuire, \$56,464.35; on pipe line, James Kennedy Construction Co., \$46,359.15; Wheelwright Construction Co., \$46,775.74; Lynch-Cannon Engineering Co., \$47,597.69; Strange & McGuire, \$50,318.53.

LIGHTING AND POWER

Eufaula, Ala.—Installation of electric light plant is being urged.

Gravette, Ala.—City has purchased local electric light plant owned by Electrical Promoting Co. and will enlarge and improve entire system; generator purchased.—E. F. Craven, Superintendent.

Ashdown, Ark.—John P. Logan, Grannis, has applied for franchise for construction of electric light and ice plant.

Alhambra, Cal.—Construction of municipal lighting plant is being considered.

Lodi, Cal.—City is considering the installation of modern and up-to-date lighting system.

Pasadena, Cal.—General Manager C. W. Koerner, of the municipal light department, has been allowed to expend not to exceed \$2,200 on electric light supplies.

Redlands, Cal.—Council has passed resolutions authorizing Mayor Strait to appoint a committee to confer with Mayor and Trustees of San Bernardino regarding proposal for two cities to build and operate joint municipal electric light plant.

Upland, Cal.—Council has passed ordinance granting franchise to Pacific Light and Power Co. to erect transmission lines on Orange ave. and to connect with 10th st. line; company will erect power house on Orange ave.

Washington, D. C.—Rural Homes Development Co. desires information relative to installation for acetylene gas lighting.—H. C. Allen, 709 Union Trust Bldg., Secretary.

Orlando, Fla.—Installation of light, water and sewerage plant is being considered; estimate being made by Engineer W. W. Lyon, Jacksonville.—A. L. Beck, Chairman Special Committee.

Americus, Ga.—Council will shortly vote on bond issue for constructing a municipal electric lighting plant.

Decatur, Ill.—City has sold \$75,000 light bonds to Harris Trust and Savings Bank, Chicago.

Eaton, Ind.—Town Council has granted to American Gas and Electric Co., through the latter's representative, Attorney William T. Haymond, Muncie, a franchise to supply town with electric lights and power, company agreeing to have its service installed in the town within 18 months.

Richmond, Ind.—W. M. Freeman has petitioned Hagerstown Council for franchise to pipe gas in that place.

Louisville, Ky.—J. M. Robinson-Norton Co. is considering construction of power house.

Mexico, Mo.—The Mexico Water Works Co. and the Mexico Electric Light and Heat Power Co. have been consolidated under the name of the Mexico Public Service Co.; capital, \$300,000; new company will probably furnish current for lighting Centralia.

Libby, Mont.—Franchise will probably be let for electric lights, telephone system, and water works.

Yerington, Nev.—Council has decided to erect tank 100 ft. high; capacity 100,000 gals.

Burlington, N. J.—Council is considering granting 50-year franchise to Burlington Electric Light and Power Co.; citizens desire municipal plant.

Camden, N. J.—Searchlight Gas Co., Pittsburg, Pa., will erect plant on Broadway at once.

Farmington, N. M.—Local electric light and power company will expend \$100,000 in constructing concrete heading, spillway and concrete bulkheads along the river bank.—R. L. Knowles, President.

Greensboro, N. C.—Greensboro Supply Co. will purchase 100-kw 440-volt 60-cycle 3-phase belted-type alternator; speed not to exceed 900 r.p.m.; complete with exciter,

switchboard, etc.; also 65 to 100-kw 2-phase alternator, 220 or 440 volts, 60 cycles and 25-h.p. motor for same.

McAlester, Okla.—C. Coon, Secretary Commercial Club, desires prices on 60-h.p. boiler.

Dillon, S. C.—Citizens have voted \$15,000 bonds for improving and equipping electric light plant. M. A. Stubbs is interested.

Texarkana, Tex.—Mayor J. P. Kline has recommended improvement of light service.

Vernon, Tex.—Vernon Light and Power Co. is considering improvement of system and doubling capacity of plant.—L. H. Sullivan, Superintendent.

Salt Lake City, Utah.—Blacksmith Fork Light and Power Co. has been incorporated, capital \$100,000, to develop water rights in the Blacksmith Fork on Bear River, Cache County.—M. S. Browning, President.

Wynyard, Sask., Can.—Town Council has decided to install street lighting and experiments will begin immediately as to most suitable light.

Montreal, Que., Can.—Council has adopted report of Board of Commissioners in regard to street lighting.

CONTRACTS AWARDED

Alameda, Cal.—To Standard Oil Co., for supplying Alameda municipal plant with fuel oil for ensuing three years, 60c. per barrel.

Alexandria, Minn.—To A. L. Ide & Sons, 204 Dearborn st., Chicago, Ill., for installation of 85-h.p. engine and 50-kw. generator, direct-connected, in the municipal electric plant, \$4,300.

Toronto, Ont., Can.—Board of Control has adopted report recommending acceptance of following tenders: Storage batteries, Chapman & Walker Co., Ltd., \$2,870; transformers, Canadian General Electric Co., \$15,800; motor generator sets, Lancashire Dynamo and Motor Co., \$2,262.

BIDS RECEIVED

New York, N. Y.—Complete lighting system for municipal building, 3d and Tremont aves.: New York Construction Co., \$5,400; Wells & Newton Co., Ave. B and 17th st., New York, \$3,331; Joseph P. Dieburg, \$8,000; Oberg-Blumberg & Bluyer, \$5,100; Lord Electric Co., \$6,642.

Akron, O.—Lighting the public streets: Cleveland Vapor and Light Co., \$28 per lamp per year for gasoline and \$16.85 per lamp per year for gas lamps; Sun Vapor and Light Co., Cleveland, \$30 for gasoline and \$18.50 for gas lamps; contract will expire Oct. 2, 1912, with the Northern Ohio Traction and Light Co. contract for electric lighting.

FIRE EQUIPMENT

San Mateo, Cal.—Citizens have voted \$32,000 bonds to improve fire department.

Bridgeport, Conn.—Board of Charities will purchase 600 ft. of hose for Lakeview home.

Washington, D. C.—Appropriation, \$30,000, has been made for building and motor apparatus for Petworth District.

Carbondale, Ill.—Erection of fire station is being considered.

Middleville, Mich.—City will purchase 500 ft. of 2½-in. hose.

Oakwood, Mich.—Chemical apparatus will be secured for newly organized fire department.

Duluth, Minn.—Fire Commissioners will expend \$6,000 for equipment for suburbs. Address Commissioner Hart.

Kearney, Neb.—Organization of hose, hook and ladder brigade for South Side is being urged by Councilman Wm. Knoggs.

Lincoln, Neb.—Installation of auto apparatus is being considered. Address Chief Clement.

Manchester, N. H.—Purchase of truck is being considered.

Burlington, N. J.—Apparatus similar to water tower will be purchased and placed on hook and ladder truck of Young America Fire Co.

Lambertville, N. J.—Fire Department Committee has been instructed to procure necessary hose asked for by Columbia Hose Co.

Ocean City, N. J.—Council is arranging to place fire alarm boxes and fire plugs in new sections.

South Orange, N. J.—Hilltop section has organized Hose No. 2 and will be provided with hose reel, 600 ft. of hose and other necessary equipment.

Brockport, N. Y.—Purchase of two auto chemical engines is being considered. J. S. Dean can be addressed.

Mansfield, O.—Estimate will be prepared on cost of equipping fire station No. 4.

Klamath Falls, Ore.—Committee from Volunteer Fire Department has made application for a chemical engine, new hose cart, 600 ft. of new hose, nozzles, axes and

a complete fire alarm system; the hose, axes and nozzles are to be ordered at once.

Chambersburg, Pa.—Fire Marshal Smith has suggested enlargement of Cumberland Valley fire house.

Chester, Pa.—Council has passed ordinance for automatic fire alarm system.

Garrettsford, Pa.—Fire company will purchase \$300 worth of hose.

Larksville, Pa.—Council has decided to erect four hose houses; \$30,000 available.

Corpus Christi, Tex.—Purchase of combined hose and chemical wagon is being considered.

Richmond, Va.—Purchase of motor engine is being considered.

CONTRACTS AWARDED

Tampa, Fla.—Two big 70-h.p. combination automobile chemical and hose wagons, cost \$10,000, to Webb Motor Car Co.

Kansas City, Kan.—Fire station, 10th and Garfield sts.; General Contractors Thompson & Fixley, 720 Lafayette ave.; brick work, to Hartman & Smith, 3010 N. Allis st.; tile roofing, to Star Cornice and Roofing Co., 2418 E. 18th st., Kansas City, Mo.; structural steel work, to James Smith, 103 West 8th st., Kansas City, Mo.; carpentry day labor; foundation in.—W. E. Harris, Portsmouth Bldg., Architect.

McKeesport, Pa.—Furnishing 1,000 ft. of hose, to Revere Rubber Co., \$1 per ft.

BRIDGES

Birmingham, Ala.—City has adopted plans for viaduct on First ave.

Enfield, Conn.—Town has appropriated \$20,000 for bridges and highways.

Manchester, Conn.—Town has voted \$4,000 for bridge over Hop River, on Prospect st.

Canton, Ill.—Board of Supervisors is considering construction of bridge over Nigger Creek in Union Township.

Burlington, Ia.—Cement bridge will be erected on Snipe Run.

Beattyville, Ky.—Fiscal Court of Lee County has ordered iron bridge built across middle fork of Kentucky River at Lyman Creek.

Owingsville, Ky.—Bath County will erect concrete bridge across Slate Creek on Owingsville and Salt Lick Pike.

Boston, Mass.—Council has rejected loan order for \$250,000 to provide for temporary structure over Mystic River between Charlestown and Chelsea.

Tunica, Miss.—Tunica County Commissioners have authorized \$50,000 bond issue for construction of bridges and roads.—E. P. Mangum, President Board of Supervisors.

St. Louis, Mo.—Plans for the Compton ave. viaduct have been approved by the Board of Public Improvements so far as the general outline and style of the structure is concerned, and it now only remains for the detail plans to be completed and approved; the viaduct is to be entirely of reinforced concrete, the full width of the street, and is to cost about \$370,000, all to be paid by four railroads; there is to be no steel superstructure.

Missoula, Mont.—City Engineer Fred Buck is designing bridge which city proposes to build across Rattlesnake Creek near its mouth.

Mays Landing, N. J.—County has sold \$60,000 bonds to rebuild three large bridges across meadows from Pleasantville to Atlantic City.

Syracuse, N. Y.—Canal Board, Albany, has approved plans of Frank M. Williams, State Engineer, for railroad and highway bridge over Erie Canal at Franklin st.; cost \$50,500.

Two Bridges, N. Y.—Citizens will vote Oct. 17 on \$18,000 to build high-grade concrete or steel bridge across Oak Orchard Creek at Kenyonville and \$10,000 for new bridge over same stream at this place.

Canton, O.—Bids will soon be received for construction of the Hildebrand bridge.—J. H. McConnel, County Auditor.

Celina, O.—Mercer County Commissioners are considering building bridge over the Wabash River in Liberty Township; cost not to exceed \$1,000.—J. L. Morrow, County Auditor.

Steubenville, O.—City Engineer Leech has submitted two sets of plans to Board of Control for bridge to span Lincoln Creek.

Muskogee, Okla.—County is considering election on \$200,000 bonds for erection of bridges.

Bristol, Pa.—Bucks County Commissioners will erect concrete span bridge over Adams Hollow Creek.

Norristown, Pa.—Chamber of Commerce wants County of Montgomery to join with Philadelphia and Western Railroad in the construction of bridge over the river from Bridgeport.

Memphis, Tenn.—City will construct culvert on Madison ave., between Cooper st. and East Parkway.

Brady, Tex.—Citizens have voted \$42,000 bonds for erection of four bridges.
Marlin, Tex.—Citizens have voted \$18,000 bonds to rebuild Highbank bridge over Brazos River.
Petersburg, Va.—City will rebuild Pochontas bridge.—R. D. Budd, City Engineer.

CONTRACTS AWARDED

Lawrence, Mass.—Masonry work for bridge in Billerica st., to Coughlin & Shells, \$2,285.
Jacksonville, Pa.—To Horn & Neff, Slatington, for constructing bridge over Onteataunee Creek.

BIDS RECEIVED

Dallas, Tex.—Building Dallas-Oak Cliff bridge, American Construction Co., Houston, \$442,411; Corrigan, Lee & Halpin, Kansas City, Mo., \$445,000; McArthur Bros., New York, \$456,000; Hull & Upson, New York, \$473,000; William P. Carmichael Co., St. Louis, Mo., \$498,100; James Stewart & Co., St. Louis, Mo., \$540,000; Kahman & McMurray, Kansas City, Mo., \$582,721.25; Fred. A. Jones & Co., Houston, Tex., \$647,000.

MISCELLANEOUS

Mobile, Ala.—Mayor P. J. Lyons has recommended construction of steel warehouse sheds and wharf improvements.
Oakland, Cal.—Board of Public Works has appropriated \$1,300 for auto for License Inspector Franke.
Manchester, Conn.—Town has decided to erect new barns.
Augusta, Ga.—Council is planning to build stockade for detention of prisoners.
Macon, Ga.—Bibb County Commissioners are having plans prepared for erection of two-story annex to jail.
Washington, Ga.—Wilkes County is considering erection of \$12,000 jail.—J. W. Callaway, Commissioner of Roads and Revenues.
Chicago, Ill.—Citizens will vote in November on \$3,000,000 bonds for construction of five county hospital buildings.
Fort Wayne, Ind.—Park Board has asked for detailed plans for building lagoon north of Lake ave.
Monroe, La.—Ouachita Parish Police Jury is considering either repair of jail building

or erection of building to replace present structure.

Escanaba, Mich.—Council has appropriated \$4,000 for public bathhouse.

Hibbing, Minn.—Plans by Ellery, Round & Sullivan have been accepted for erection of proposed detention hospital.

Newton, Miss.—Citizens have defeated proposition to issue bonds for erection of court house.

Mays Landing, N. J.—Bonds amounting to \$40,000 for improvements to county buildings have been sold by Freeholders.

Babylon, L. I., N. Y.—Architects Pickering & Walker, New York City, are preparing plans for \$10,000 library.

Jamestown, N. Y.—Citizens have voted \$40,000 to complete and equip Jones Memorial Hospital.

New York, N. Y.—Bids have finally been rejected by Wm. H. Edwards, Commissioner Street Cleaning, for hire for purpose of removing snow and ice from the streets of Manhattan, Bronx and Brooklyn Boroughs, City of New York, or horses, carts or other vehicles and machines or other devices.

New York, N. Y.—Park Board has rejected bids for automobile for Borough of Bronx; specifications will be amended and bids will be advertised for again.

Syracuse, N. Y.—Board of Contract and Supply will soon ask bids for erecting addition to City Hospital; cost \$30,000.

Grand Forks, N. D.—Plans are being prepared for erection of \$60,000 city hall.

Ashtabula, O.—Council has passed ordinance for construction of garbage disposal plant and for construction of wharves and landing.—S. F. MacDonald, President.

Cleveland, O.—Architect E. L. Tilton, New York City, is preparing plans for \$30,000 branch library.—C. Lorenz, Secretary Public Library Board.

Marion, O.—Council has decided to issue \$100,000 bonds for construction of city hall; election will be held.

Portland, Ore.—Application for a 25-year exclusive franchise to gather and incinerate garbage of the city has been made to Council by Portland Sanitary Co., which proposes to take garbage at least three miles beyond city limits, where it either will be burned or made into by-products.

Erie, Pa.—Consulting Engineer C. C. Brown has recommended \$38,000 bond issue and \$1,500 appropriation for getting pro-

posed garbage incinerating plant into operation.

Wilkes-Barre, Pa.—City did not let contract for the construction of 23 steel cells in jail.—Reilly & Schroeder, 58 and 59 Bennett Bldg., Architects.

Memphis, Tenn.—Memphis Foundlings' Home, 323 Trigg ave., has decided to erect building.

Paris, Tex.—Citizens will vote soon on bond issue for construction of city market; will install refrigerator equipment.—E. H. McCuiston, Mayor.

Norfolk, Va.—Finance Committee is considering \$3,000 appropriation for repairs to city hall.

Richmond, Va.—James River Improvement Commission has authorized City Engineer to prepare plans and specifications for construction of a concrete wharf and bulkhead from the mouth of Gillies Creek to Nicholson st.

Milwaukee, Wis.—Police Committee of Council has voted to ask for plans for proposed Fifteenth Ward police station.

Milwaukee, Wis.—Fire and Police Committee is considering building dock on Milwaukee River for fire boat.

Racine, Wis.—Council has decided to advertise for bids for installation of police patrol system; estimated cost \$3,500.

CONTRACTS AWARDED

Clifton Forge, Va.—To C. H. Turner & Co., Evinston, at \$25,000, for erection of jail and court house at Clifton Forge.—H. C. Allen, Hot Springs, Architect.

Aberdeen, Wash.—Improvement of tide lands in Aberdeen, (a) clearing, (b) filling, (c) draining, Sept. 28., to Tacoma Dredging Co. for clearing and filling; to Haukell & Hegdale for drainage; total contract, \$195,790: (a) Puget Sound Bridge & Dredging Co., bonds, 16.85c. per cu. yd., \$252,750; same, cash, 14.85c., \$222,750; (b) Standard American Dredging Co., 13.9c., \$2,085,000; (c) North American Dredging Co., 16.4c., \$246,000; (d) Tacoma Dredging Co., 11c., \$165,000. Clearing: (a) Puget Sound Bridge & Dredging Co., bonds, \$36,125; same, cash, \$32,750; (d) Tacoma Dredging Co., \$21,250; Haukell & Hegdale, \$25,995. Drainage: (a) Puget Sound Bridge & Dredging Co., bonds, \$16,030; same, cash, \$14,225; (d) Tacoma Dredging Co., \$10,280; Haukell & Hegdale, \$9,540.—Jas. W. Ewart, City Engineer.

TOO LATE FOR CLASSIFICATION

STREET IMPROVEMENTS

Los Angeles, Cal.—Highway Commission will ask for new bids for resurfacing Mountain ave.
Santa Ana, Cal.—Council has decided to resurface W. Fourth st.
San Francisco, Cal.—Mission Promotion Association has adopted plans submitted by Arthur G. Scholz of the Association's Beautification Committee for encircling and gridironing the entire city with system of driveways and boulevards.
Wilmington, Del.—Mayor Spruance has approved special appropriation of \$30,000 to Street and Sewer Department for immediate work.
Indianapolis, Ind.—Board of Park Commissioners has decided to construct boulevard in 38th st.
Council Bluffs, Ia.—Council has passed resolutions adding several miles of walk.
Louisville, Ky.—Board of Public Works is considering improvement of Bardstown road.
Elizabeth, N. J.—First St. Association is interested in proposed extension of First st., this city, to Roosevelt.
Mount Holly, N. J.—Isaac Brown, Unionville, has been appointed to supervise grading of old Jobstown turnpike from Mount Holly to Chambers' Corner; cost \$36,358.08.
Newark, N. J.—Board of Street and Water Commissioners has decided to grade, curb and flag Fourth and Hillside aves. and Hedden place.—A. R. Groathead, President.
Seneca Falls, N. Y.—Citizens will vote Oct. 25 in \$75,000 bonds for street paving.
Durham, N. C.—City will macadamize section of Seaman st.
Girard, O.—Trustees of Liberty Township have decided to petition the State and county officials to pave with brick strip of road between Mosier lane and the Mahoning-Trumbull county line.
Cuyahoga Falls, O.—Village will issue \$8,200 bonds to improve Front st.—C. N. Russell, Mayor.
Medina, O.—E. F. Pentz, Seville, has purchased issue of 4,660 street bonds.
Baker City, Ore.—Paving of N. First st. is being considered.
Knoxville, Tenn.—Polk County is considering \$300,000 good roads bond issue.

Victoria, Tex.—Bond issue, \$300,000, for better roads is being considered.

Lynchburg, Va.—Southern Railway Co. will pave Kemper st., cost \$2.50 per yd., under direction of City Engineering Department.

Lynchburg, Va.—Residents of Amherst County are urging improvement of three miles of road leading from Amherst bridge along James River in direction of Elon.

Wheeling, W. Va.—City Engineer Cooks has been ordered by Board of Control to prepare plans for construction of retaining wall at Lind st.

Milwaukee, Wis.—Plans have been asked for construction of Grand Ave. boulevard. Street will be widened to 120 ft. and paved.

CONTRACTS AWARDED

Hartford, Conn.—State Road Commissioner J. H. MacDonald to the Pierson Engineering and Construction Co., Bristol, for grading, hardening, straightening and widening of 6,950 ft. of highway in Rocky Hill, \$5,843.

St. Augustine, Fla.—Clearing and grading new road to Elkton to Contractor H. Lowe.

Princeton, Ind.—To the A. E. & W. Construction Co., Evansville, for building 6 miles of gravel roads in Wabash Township.

Clinton, Ia.—Paving Third Ave., to Thos. Carey & Sons, \$5,838.95.

Ft. Scott, Kan.—Paving Market Square; Midland Construction Co., \$1.03 per yd.; Mattox Bros., 99c. per yd.

Topeka, Kan.—Fred. S. Jackson, attorney general, in an opinion issued for the county attorney of Johnson County, holds that the County may let contract for the rock road from Olathe to Kansas City if lowest bidder is higher than estimated cost of the work. Johnson County wants to build the rock road and it was estimated by the engineer that work would cost little less than \$28,000.

Lockport, N. Y.—Improving High st. to C. N. Stainthorpe & Co., \$1,600.

Pleasant Ridge, O.—To McGrew & Wagner to make pavement in Swift ave., 48c. ft. Council has decided to buy five carloads of crushed stone for street repair work.

BIDS RECEIVED

Yonkers, N. Y.—Improvement of Van Buren st., Kelly & Hannifin, \$4,595, 30 days; F. Cianfaglione, \$6,200, 50 days; Kearns & Hart, \$4,450, 60 days; Joseph L. Cuzzo, \$5,487, 60 days; Nicholas Mangini, \$7,395, 95 days; O'Rourke Bros., \$5,625, 60 days; improvement of Lincoln st., Kelly & Hannifin, \$7,315, 45 days; F. Cianfaglione, \$6,000, 40 days; Kearns & Hart, \$6,675, 50 days; McDonald & Murray, \$8,307, 60 days; O'Rourke Bros., \$6,863, 40 days; Nicholas Mangini, \$6,948.20, 50 days.

SEWERAGE

Ft. Scott, Kan.—Construction of sewer along Blair ave. and Plaza is being considered.

Mt. Vernon, N. Y.—Commissioner Beresford has been instructed to prepare specifications for lateral sewer in Garfield ave.

Pleasant Ridge, O.—Village Council has decided not to put to vote at regular fall election question of issuing bonds for sewer system.

Monaca, Pa.—Bids will be received for construction of 24-in. sewer from Indiana River to river.

CONTRACTS AWARDED

Schenectady, N. Y.—Nott st. sewer to Thos. R. Crane; on three other streets to Kalteux-Frank Co.

BIDS RECEIVED

Plainfield, N. J.—Sanitary sewers and pumping stations: Jas. A. Christie, Newark, lowest bidder, as follows: 8-in. vit. pipe sewer: 2,260 ft. under 6 ft. deep, 45c.; 7,420 ft., 6 to 8 ft., 66c.; 2,460 ft., 8 to 10 ft., 96c.; 8-in. c. i. pipe sewer, 225 ft. under 6 ft. deep, \$1.44; 1,335 ft., 6 to 8 ft., \$1.95; 520 ft., 8 to 10 ft., \$2.61; 25 ft., 10 to 12 ft., \$3.66; 10-in. c. i. pipe sewer, 830 ft. under 6 ft., \$1.65; 340 ft., 6 to 16 ft., \$4.69; 19 standard manholes under 8 ft. deep, \$40; nine 8 to 10 ft., \$45; special manholes, 7 under 8 ft. deep, \$65; one 8 to 10 ft. deep, \$70; 12 to 14 ft., \$75; 13 flush manholes, \$100; 10 drop connections, \$6; 370 branches on 8-in. vit. pipe sewer, 30c.; 42 crosses on 8-in. c. i. pipe sewer, \$9.25; 14 on 10

BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
STREET IMPROVEMENTS				
Nebraska	Blair	Oct. 14	Building sidewalks	W. K. Strode, City Clerk.
New York	Albany	Oct. 17, 3 p.m.	Imp. Myrtle av. with repressed vit. shale paving blocks on concrete foundation, sewers, etc.	I. Wachsman, Secy. Bd. Cont. & Sup.
Illinois	East St. Louis	Oct. 19, noon	Imp. of Brady ave. seven blocks, Kansas av., Rock Road, 79th st. and alley in one block, 19,649 sq. yds. vit. brick paving, sewers, etc.	W. J. Crocken, City Engineer. Ford & MacCrea, Gazette Bldg. Eng.
Arkansas	Little Rock	Oct. 25, 3 p.m.	Paving Dist. 163, treated wood block, asphalt and brick	
SEWERS				
Michigan	Dowagiac	Oct. 14, 6 p.m.	Building 400 ft. 12 in. pipe sewer, aver. cut, 9 ft., 450 ft., 8 in. cut 7 ft., two manholes, etc., West st.	W. T. Easton, City Engineer.
Illinois	Waukegan	Oct. 20, 8 p.m.	Water supply pipe in First st. and Maple ave.	F. W. Buck, Pres., Bd. Local Imp.
Iowa	West Liberty	Oct. 25, 3 p.m.	Furnishing 29,475 ft. 8 to 18 in. vit. sewer pipe, 69 manholes, 20 flush tanks, septic tank, 2 sand filters and bulkhead; Iowa Eng. Co., Clinton, Engrs.	Irwin Aikin, Town Clerk.
WATER SUPPLY				
New Jersey	Bayonne	Oct. 18, 8 p.m.	Building water line in two streets	W. C. Hamilton, City Clerk.
LIGHTING AND POWER				
Minnesota	Jasper	Oct. 15, 7.30 p.m.	Building carbureted water gas works for village: producer, boiler, hydraulic condenser, scrubber, purifier, relief holders, gas and oil storage tanks, steam driven compressor, blower, governor, etc.	Ed Burg, Mayor.
MISCELLANEOUS				
South Carolina	Charleston	Oct. 15, noon	Furnishing Police Department with 15 winter overcoats	C. L. Shepherd, Clerk Police Dept.
Alberta	Calgary	Nov. 7, noon	Furn. ties and poles for extension of municipal street railway.	W. D. Spence, City Clerk.

in., \$10.90; 1,520 4-in. vit. house connections, 45c.; 20 4-in. c. i. pipe house connections, 95c.; 150 ft. 10-in. vit. pipe over-flow, 50c.; 3,645 ft. 8-in. c. i. force main, \$1.17; 12 8-in. $\frac{1}{2}$ bends, \$4.10 each; 3 10-in. flap valves, \$30 each; 4 10-in. sluice gate, \$40 each; 2 storage tanks, \$500; operating two vaults and buildings, \$2,000 each. Other bidders: Jos. B. O'Rourke & Co., Boston, Mass., \$36,402; Jas. H. Sheehan, New Brunswick, \$37,596.95; Blackall & Baldwin Co., New York City, installing two pumping plants, complete, \$3,985; Merritt & Co., Camden, for same, \$4,224; Blaisdell Machinery Co., New York City, for same, \$2,944. Bid of Miele & Bruno, Newark, was informal; excavation for vit. pipe sewers mostly sand; for c. i. pipe, mostly sand under water; cap. of pumps, 160 gals. per minute.—A. J. Gavett, City Surveyor.

WATER SUPPLY

Sacramento, Cal.—Citizens will vote, Nov. 16, on \$66,600 bonds for filtration plant.
Russell Gulch, Cal.—Citizens are urging election on bonds to install water works.
Hartford, Conn.—Board of Water Commissioners has voted to install pumps at river bank.
Bayonne, N. J.—Council has decided to lay water pipe, sewer and gas connections in 13th, 17th and 42d sts.—W. C. Hamilton, City Clerk.
Bloomington, N. Y.—Water works bonds, \$15,000, to O'Connor & Kahler, New York.
Mount Airy, O.—Village will vote No. 5 on \$12,000 bond issue for Cincinnati filtered water.
Taylor, Tex.—Taylor Water Co. has had plans prepared for installation of storage reservoir.—L. W. Chase, President.

CONTRACT AWARDED

Limon, Col.—Water Works Construction Co. to Marshall Bros., Las Animas, General, \$7,400; pumps, \$1,350; hydrants and valves, \$725; tower and tank, \$3,492; c. i. pipe, \$6.-276.83; int. comb. engine, \$1,770; total, \$21.-013.83; engineer's estimate, \$23,580.05.

Limon, Col.—General construction of water works: Marshall Bros., successful bidders.—Burns & McDonnell, Scarritt Bldg., Kansas City, Mo., Engineers.

BIDDER	Quantities	Henry Bowman	Fred M. Clark	Des Moines Br. & I.	T.C. Brooks & Son	Marshall Bros.	Denver R'k Dr. Co.
ADDRESS		Lawrence, Kas.	Savannah, Mo.	Des Moines, Ia.	Jackson, Mich.	Las Animas, C.I.	Denver, Col.
Haul & Lay. 4" C.I.P.	8165	.18 $\frac{1}{2}$.16	.61	.17	.18	.13 $\frac{1}{2}$
" " 6" "	4500	.21	.20	.84	.19	.20	.16
" " 8" "	1230	.28	.25	1.07	.26	.25	.19
Furn. & Lay. 2" Galv.	2079	.32	.30	.32	.30	.32	.26
Haul & Sett. Hydrants..	18	4.20	5.00	30.00	4.00	4.00	3.75
" " 4" Valves	14	2.25	1.00	12.00	2.00	2.00	1.25
" " 6" "	4	2.40	1.50	16.00	2.00	2.00	1.50
" " 8" "	2	2.75	2.00	22.00	3.00	2.00	2.25
" " 2" "	6	1.25	1.00	8.00	1.00	1.25	1.25
Portland Concrete.....	60 cu.yd.	9.00	9.00	7.50	8.00	8.50	7.50
Lump Sum Bid.....		\$8500.00	\$7500.00	\$14,990.00	\$8000.00	\$7400.00	\$7037.00

BIDS RECEIVED

Limon, Cal.—Water works improvements to Marshall Bros., Los Ammao, as follows: two pumps, vertical triplex, single action plunger pattern type, \$1,350; hydrants 2 valves 18 4-in., \$26; 14 4-in. gate valves, \$7; 4 6-in., \$11; 2 8-in., \$20; 6 2-in., \$4; 26 2-piece valve boxes, \$3; 70,000 gallon tank, 100 ft., \$3,492; 89.8 tons 4-in. c. i. pipe, \$32.25; 101.9 tons of 6-in. and larger, \$30.75; 8,995 lbs. special castings, 2 $\frac{3}{4}$ c.; 2 internal combustion 25 h. p. engines, erected, \$1,770. Burns & McDonnell, Scarritt Bldg., Kansas City, Mo., Engineers.

LIGHTING AND POWER

Corydon, Ia.—Recently completed electric light plant of Allerton has been totally destroyed by fire after month's operation; loss estimated \$8,000.

Plains, Kan.—Electric light plant in this city is to be provided with new engine to accommodate increasing business.

Belair, Md.—Large plant of Belair Electric Co., on Winters Run, has been completely wrecked by fire.

Rome, N. Y.—Electric light contract expires in Feb.; municipal plant may be installed. Address President Jones, Board of Public Works.

Yorktown, N. Y.—Second District Public Service Commission is considering application of P. F. W. Ruther, Peekskill Lighting and Railroad Co., for permission to furnish electric and gas service; cost \$4,300.

FIRE EQUIPMENT

Chicopee, Mass.—Installation of motor-driven truck in Cabot st. engine house is being considered.

Cornwall, N. Y.—Highland Engine Co. No. 5 has voted to purchase hose wagon; cost \$800.

Plainfield, N. J.—Purchase of auto steamer and 1,000 ft. of hose is being considered.

Corpus Christi, Tex.—Three committees have been appointed, one from the citizens, one from the Council and one from the fire department, to consider the best method of improving fire department.

CONTRACTS AWARDED

Limon, Col.—Furnish 1,000 ft. 2 $\frac{1}{2}$ -in. hose with 2 reels, 4-ply pipe and other equipment to Eureka Fire Hose Co., Denver, \$1,196.

Edwardsville, Pa.—Furnishing 1,000 ft. of hose, to Eureka Fire Hose Co., New York.

BRIDGES

Russell, Mass.—Town has voted to build concrete bridge on Blandford stage road.

Detroit, Mich.—New bids will be asked for construction of bridge at 14th ave. and Michigan Central Railroad.

Roosevelt, N. J.—Plans will be prepared by County Engineer for concrete bridge at this place.

Schenectady, N. Y.—Erection of bridge across Cotton Factory Hollow is being considered.

Reading, Pa.—Plans have been prepared for \$40,000 bridge across Lebanon Valley tracks at Tulpehocken st.

Morgantown, W. Va.—County Court has finally decided to build bridge across Booth's Creek at Uffington.

MISCELLANEOUS

Sacramento, Cal.—Revised plans have been prepared by Architect L. A. Herold for erection of \$530,000 court house.

Pasadena, Cal.—Bids will soon be asked for erection of addition to city hall.

South Bend, Ind.—Chamber of Commerce will urge establishment of public market.

Council Bluffs, Ia.—The Park Board has been requested by Miss Julia Officer to donate west quarter of Bayliss Park for construction of municipal playground, with a wading pool, underground rest room and natatorium.

Louisville, Ky.—General Council has passed ordinance for issuance of \$1,000,000 bonds for erection of city hospital.

New Orleans, La.—Budget Committee has reported favorably on ordinances appropriating \$2,500 for improvement of Taylor Park and \$30,000 for reconstruction of Dryades Market.

Collingswood, N. J.—Police Committee will secure necessary winter uniforms for policemen.

Little Falls, N. Y.—Committee, Alderman Reardon, Chairman, has urged erection of combined city hall, fire and police station.

Lockport, N. Y.—Niagara County will vote on erection of \$100,000 almshouse.

Sandusky, O.—Council has voted \$400 for two motor cycles.

CONTRACT AWARDED

Fallston, Pa.—Erecting town hall to C. Garmen & Son, New Brighton, \$1,500.

BIDS RECEIVED

Newark, N. J.—Combination automobile ambulance and patrol wagon: New Jersey Overland Co., \$2,437; Franklin Automobile Co., \$3,750; Commercial Power & Wagon Co., \$2,700; J. G. Reichstetter, \$3,750; Knox Automobile Co., \$4,326.60; Gramm Motor Car Co., \$2,850; The White Automobile Co., \$3,000, and the Pope-Hartford Co., \$4,976.90.

PROPOSALS

SEWER CONSTRUCTION

Dowagiac, Mich.

Notice is hereby given that the Board of Public Works of the City of Dowagiac, Mich., will receive bids until the 14th day of October, 1910, at six o'clock in the afternoon, for the construction of a sewer on West Street in said city, according to plans, specifications and profiles now on file with the City Clerk.

Total length of sewer 850 feet. 400 feet of 12-inch pipe; and average cut of 9 feet. 450 feet of 8 inch pipe; average cut 7 feet. Two manholes.

Each bid shall be in writing, accompanied by certified check for one-fifth of the contract price bid, to be forfeited in case the bidder shall not enter into contract.

The Board of Public Works reserves the right to reject any and all bids.

WM. T. EASTON,

(15) City Clerk.

SEWERS AND WATER MAINS.

Waukegan, Ill.

Sealed proposals will be received by the Board of Local Improvements of the City of Waukegan, Lake County, Illinois, until 8 o'clock P. M., Thursday, October 20th, A. D. 1910, at the Council Chambers in said City of Waukegan, No. 107 Washington Street, for the following improvements, to wit:

Doc. No. 377—A system of sewers in Sheridan Road and other streets, estimated cost about \$19,500.00.

Doc. No. 382—Water supply pipe in First Street.

Doc. No. 383—Water supply pipe in Maple Ave.

Doc. No. 384—Sewer in Philadelphia Ave. Proposals must be made out upon blanks furnished at said office and be accompanied by cash or certified check for 10 per cent of the aggregate proposal, payable to the President of said Board.

FRED W. BUCK,

President of the Board of Local Improvements.

ALVAH L. ROGERS, Secretary. (15)

SANITARY SEWERAGE SYSTEM

Change of Date

Clearwater, Fla.

Bids will be received by the Town Council of the town of Clearwater, Fla., until 12 o'clock noon, October 15, 1910, for constructing sanitary sewerage system. Extent of proposed work is approximately 2¼ miles of pipe, 8 inches to 15 inches; manholes, flush tanks, etc.

Specifications may be obtained from the Town Clerk. Plans will be on file and can be seen at office of the Engineer. Certified check for 5 per cent to accompany bid. The right is reserved to reject any or all bids.

THOS. J. SHERIDAN,

Town Clerk,

Clearwater, Fla.

WM. W. LYON,
Consulting Engineer.
305 Duval Bldg., Jacksonville, Fla.

SUBWAY AND ELEVATED RAILROAD

New York, N. Y.

Bids are invited for construction, equipment and operation of the Tri-Borough Subway and Elevated System of New York City, comprising about 44 miles of line, to be opened October 20, 1910.

Bids are also invited for construction only, with municipal money, to be opened October 27, 1910. Bids may be made for one or more of the sections into which the construction work has been divided.

Write or call concerning full details, including forms of contracts and plans.

PUBLIC SERVICE COMMISSION
FOR THE FIRST DISTRICT,

154 Nassau Street, New York City.

FURNISHING WATER MAIN

Niles, O.

Sealed proposals will be received by the Board of Control of the City of Niles, Ohio, until 12 o'clock noon, October 19, 1910, for the furnishing of the following material, f.o.b. Niles, Ohio.

About 5,000 feet of 8-in. cast iron water pipe for 200-ft. head.

About 26,000 ft. of 6-in. cast iron water pipe for 200-ft. head.

32 6-in. water gates, 5 8-in. water gates, iron body, brass trimmings, open to the right, non-rising stems, 200-ft. head.

32 fire hydrants, 4-in., 2 hose discharge, length 5 ft. below surface.

About 1,600 pounds of specials.

10 tons of lead.

800 pounds of hemp.

37 valve boxes.

The pipe to be delivered in carload lots as required. Bids should contain the full name of all persons interested that if the bid is accepted a contract may be entered into and the performance of it properly secured.

The Director of Public Service reserves the right to reject any or all bids.

By order of the Board of Control.

CLARE CALDWELL,

Director of Public Service.

FIRE HOSE

Highland Park, N. J.

Sealed proposals for three hundred feet of two and one-half inch fire hose in fifty foot lengths with couplings will be received by the Borough Council at 8 p. m. on November 10th, 1910, at the Hose House, Raritan Ave., Borough of Highland Park, N. J. Council reserves the right to reject any or all bids.

JAMES R. EARLE,
Clerk.

ELECTRIC LIGHTING PLANT

Allentown, N. J., Sept. 15, 1910.

Sealed bids addressed to Charles S. Joiner, Borough Clerk, and accompanied by a certified check for two hundred and fifty (\$250) dollars made payable to Edward Dilatush, Borough Collector, will be received and publicly opened by the Council of the Borough of Allentown, N. J., at the Borough Hall at 8 o'clock P. M., Wednesday evening, October 19, 1910, for the construction of a municipal electric lighting plant. The work contemplated consists in furnishing and installing one (1) 25-KW. D. C., 3-wire generator, 250 volts; one (1) 30-HP. internal combustion engine; one (1) 15-ampere, 8-hour storage battery; 2¼ miles transmission lines; street lights, switchboard, shafting and equipment within the power house.

Plans and specifications and form of contract may be examined at the office of the Borough Clerk, Allentown, N. J., or at these offices of the Engineer, viz.: 220 Broadway, New York City; 46 Park st., Bordentown, N. J.; 1002 Drexel Building, Philadelphia, Pa.

Borough Council expressly reserves the right to reject any or all bids.

A. ROBINSON, Mayor.

CHARLES S. JOINER, Clerk.
W. W. YOUNG, Consulting Engineer.

BIDS FOR STREET LIGHTING

Walla Walla, Wash.

The City of Walla Walla will receive up to and including 2 o'clock P. M., October 15, 1910, sealed bids for the lighting of the streets of said city by electricity with 186 or more arc lights, beginning November 1, 1910. Bidders are requested to submit bids covering a period of three years and a period covering five years from November 1, 1910. Bids must state the price per light per month, including maintenance of same.

Bids must be sealed, marked "Bids for Street Lighting," and addressed to the undersigned.

The city reserves the right to reject any or all bids.

T. D. S. HART, City Clerk.

SEWERS

Neosho, Mo.

Sealed proposals will be received by the City Clerk of Neosho, Mo., up to 8 o'clock P. M., of Tuesday, the 1st day of November, 1910, for furnishing material and constructing a system of sewers for Sewer District Number One of said city, in accordance with the plans and specifications on file.

Specifications, instructions to bidders and blank proposals may be obtained from the City Clerk, and detailed plans and sewer profiles will be kept on file at the office of the City Clerk, Neosho, Mo., where contractors will have ample opportunity to secure all data for bidding.

The right is reserved to reject any and all bids.

Each bid must be accompanied by a certified check of Five Hundred (500) Dollars.

F. J. BIGHAM,

Mayor,

WILLIAM WARDEN,

City Clerk.

JOHN M. SHERWOOD, Engineer.

Neosho, Mo.

STORM SEWERS

Muskogee, Okla.

Sealed proposals for Storm Sewer, District No. 12, will be received by the City Clerk, Muskogee, Okla., until 5 o'clock P. M., October 17, 1910.

The work consists of 2,000 cu. yds. brick or concrete masonry in three (3) foot to five (5) foot sewers, 20,000 cu. yds. of excavation, and 16,000 feet of tile pipe, 12 inches to 33 inches, with all necessary manholes and other appurtenances.

The above work will be paid for by special tax warrants, payable in three equal yearly installments and bearing interest at eight (8) per cent.

Plans and specifications may be seen at the office of the City Engineer, or may be secured upon payment of \$5.00.

All proposals shall be made on the blank forms furnished by the city for the purpose and shall be accompanied by a certified check for \$5,000 drawn to the order of the City of Muskogee.

DISPOSAL OF REFUSE

Boston, Mass.

The Superintendent of Streets of the City of Boston, office 47, City Hall, invites proposals for the disposal of refuse for a term of 10 years from January 1, 1912, and giving bond therefor of a surety company approved by the superintendent. The proposals can be obtained at said office on and after September 1, 1910, and must be filled out, signed by the bidder and left at said office before 12 o'clock M., of Monday, October 17, 1910, with a certified check for five thousand dollars (\$5,000), payable to and to be the property of the city if the proposal after acceptance is not carried out, and will at said hour and place be publicly opened and read. Proposals must be made in duplicate, the duplicate, without check, to be deposited by the bidder with the City Auditor previous to the time named for opening the bids. The undersigned reserves the right to give preference to the proposals of bidders agreeing to pay the trade union's rate of wages and the right to reject any or all proposals. The proposals should be inclosed in an envelope, sealed, and marked "Proposal for Disposal of Refuse."

L. K. ROURKE,
Superintendent of Streets.

FOR SALE

Will Buy for Cash—
at once—Engineer's Transit, with level attachment, with or without arc. What have you?
THE ENGINEERING AGENCY, Inc.
1662 Monadnock Block, Chicago